MHC-2200/2200CD/3300/3300CD

SERVICE MANUAL

US Model
MHC-2200CD/3300CD
Canadian Model
MHC-2200CD
AEP Model
West Germany Model
MHC-2200/3300
UK Model
MHC-2200/2200CD/3300CD
Italian Model
MHC-3300

- MHC-2200/2200CD/3300/3300CD are composed of following models. As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR MHC-2200/2200CD

	2200	2200CD (US, Canadian)	2200CD (UK)
AMPLIFIER	TA-717M	TA-717M	TA-717M
CASSETTE DECK	TC-717M	TC-717M	TC-717M
TUNER	ST-818M	ST-818M	ST-818M
CD PLAYER	——	CDP-S207	CDP-S207
SPEAKER SYSTEM	——	SS-H2200	——

COMPONENT MODEL NAME FOR MHC-3300/3300CD

	3300	3300CD (US)	3300CD (UK)
AMPLIFIER	TA-818M	TA-818M	TA-818M
CASSETTE DECK	TC-818M	TC-818M	TC-818M
TUNER	ST-818M	ST-818M	ST-818M
CD PLAYER	——	CDP-S207	CDP-S207
SPEAKER SYSTEM	——	SS-H3300	——

SPECIFICATIONS

Power requirements

US, Canadian model: 120V AC, 60Hz
AEP, West Germany, Italian model: 220 V, 50/60 Hz
UK model: 240V, 50Hz

Power consumption

	MHC-2200/2200CD	MHC-3300/3300CD
US, Canadian model	130W	
AEP, West Germany, Italian model	85W	105W
UK model	165W	225W

Dimensions/Weight

	Dimensions* (w/h/d)	Weight
ST-818M	Approx. 225×65×230mm (8 ⅞×2 ¾×9 ⅛ inches)	Approx. 1.1kg (2 lb 7 oz) net
TA-717M	Approx. 225×120×270mm (8 ⅞×4 ¾×10 ¾ inches)	Approx. 3.8kg (8 lb 6 oz) net
TA-818M		Approx. 4.3kg (9 lb 8 oz) net
TA-717M	Approx. 225×120×230mm (8 ⅞×4 ¾×9 ⅛ inches)	Approx. 1.7kg (3 lb 12 oz) net
TC-818M		Approx. 2.6kg (5 lb 12 oz) net
CDP-S207	Approx. 225×65×230mm (8 ⅞×2 ¾×9 ⅛ inches)	Approx. 2.0kg (4 lb 7 oz) net
SS-H2200	Approx. 185×300×220mm (7 ⅜×11 ⅞×8 ¾ inches)	Approx. 3.0kg (6 lb 10 oz) net
SS-H3300		Approx. 3.4kg (7 lb 8 oz) net

* incl. projecting parts and controls

Supplied accessories

Remote Commander (1 RM-S2200/S3300)
Sony SUM-3 (NS) batteries (2)
Flat cord (3)
AM loop antenna (1)

MICROFILM

COMPACT HI-DENSITY COMPONENT SYSTEM

SONY®

PARTS LIST

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

MHC-2200/2200CD

Part No.	Description
1-465-158-11	REMOTE COMMANDER (RM-S2200)
1-501-351-21	(2200CD:US,Canadian)...ANTENNA, FEEDER
1-501-369-11	(2200:AEP,UK,2200CD:UK)...ANTENNA
1-501-374-11	(2200:AEP,UK,2200CD)...ANTENNA, LOOP
1-557-954-21	(2200CD:US,Canadian) ...CORD, SPEAKER CONNECTION
1-558-233-11	(2200CD)...CORD (WITH CONNECTOR)(SIRCS)4P
1-559-533-11	(2200CD)...CORD, CONNECTION
1-559-821-11	CORD (WITH CONNECTOR)
2-394-123-01	COVER, BATTERY (for REMOTE COMMANDER)
3-750-202-11	(2200,2200CD:UK,Canadian) ...MANUAL, INSTRUCTION
3-750-202-21	(2200CD:US).....MANUAL, INSTRUCTION
3-750-202-41	(2200CD:AEP)....MANUAL, INSTRUCTION
3-750-220-11	(2200CD:Canadian,UK)...MANUAL, INSTRUCTION
*4-927-413-01	CUSHION (UPPER)
*4-927-414-01	CUSHION (LOWER)
*4-927-416-01	(2200CD:UK)............INDIVIDUAL CARTON
*4-927-419-01	(2200CD:US,Canadian)...INDIVIDUAL CARTON
*4-930-368-01	(2200).................INDIVIDUAL CARTON

MHC-3300/3300CD

Part No.	Description
1-465-160-11	REMOTE COMMANDER (RM-S3300)
1-501-351-21	(3300CD:US)...........ANTENNA, FEEDER
1-501-369-11	(3300:AEP,Italian,3300CD:UK)...ANTENNA
1-501-374-11	(3300:AEP,Italian,3300CD)...ANTENNA, LOOP
1-557-954-21	(3300CD:US).....CORD, SPEAKER CONNECTION
1-558-233-11	(3300CD)...CORD (WITH CONNECTOR)(SIRCS)4P
1-559-533-11	(3300CD)...CORD, CONNECTION
1-559-821-11	CORD (WITH CONNECTOR)
2-394-123-01	COVER, BATTERY (for REMOTE COMMANDER)
3-750-202-11	(3300,3300CD:UK)...MANUAL, INSTRUCTION
3-750-202-21	(3300CD:US)........MANUAL, INSTRUCTION
3-750-202-41	(3300CD:AEP).......MANUAL, INSTRUCTION
3-750-220-11	(3300CD:UK)........MANUAL, INSTRUCTION
*4-927-413-01	CUSHION (UPPER)
*4-927-414-01	CUSHION (LOWER)
*4-927-415-01	(3300CD:UK)...INDIVIDUAL CARTON
*4-927-418-01	(3300CD:US)...INDIVIDUAL CARTON
*4-930-367-01	(3300)........INDIVIDUAL CARTON

CDP-S207 PACKING MATERIAL

Part No.	Description
4-920-941-01	SHEET, PROTECTION
*4-929-703-01	CUSHION (LEFT)
*4-929-704-01	CUSHION (RIGHT)

SS-H2200/H3300 PACKING MATERIAL

Part No.	Description
*4-857-137-01	CUSHION

9-953-733-11

Sony Corporation
Audio Group

English
89C0476-1
Printed in Japan
©1989. 3
Published by A/V Engineering Service Dept.

TA-717/717M/818/818M

SERVICE MANUAL

US Model
AEP Model
UK Model
TA-717M/818M
Canadian Model
TA-717M
E Model
TA-717/818

TA-717/818 are the amplifier section in FH-717R/818R.

TA-717M/818M are the amplifier section in MHC2200/2200CD/3300/3300CD.

SONY
POWER
STANDBY
MIC LEVEL
DBFB LEVEL
BALANCE
VOLUME
PHONO
TUNER
CD
TAPE
MHC-3300
HEADPHONES
GRAPHIC EQUALIZER
EQUALIZATION

Photo: TA-818M

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (for US, Canadian model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 6 ohm loads both channels driven, from 50 – 20,000 Hz; rated 22 watts: 717M, 30 watts: 818M per channel minimum RMS power, with no more than 1% total harmonic distortion from 250 milliwatts to rated output.

Continuous RMS power output (AEP, UK, West Germany, Italian model)
TA-717M
30 + 30 watts (6 ohms, at 1 kHz, 5% THD)
TA-818M
45 + 45 watts (6 ohms, at 1 kHz, 5% THD)

Peak music power output (E, Saudi Arabia model)
380 watts (5% THD, 6 ohms)

	Sensitivity	Impedance
AUX (US, Canadian model) (phono jacks)	450 mV	50 kilohms
CD (AEP, UK, E West Germany Italian, Saudi Arabia model) (phono jacks)		
MIC (minijack)	1 mV	600 ohms
PHONO (phono jacks)	2.5 mV	47 kilohms

Outputs

HEADPHONES (stereo minijack)	Accepts headphones of 8 ohms or more.
SPEAKER	Accepts speakers of 6 to 16 ohms.

Power requirements
US, Canadian model: 120 V AC, 60 Hz
AEP, UK, West Germany, Italian model: 220 V, 50/60 Hz
UK model: 240 V, 50 Hz
E model: 120, 220 or 240 V AC adjustable, 50/60 Hz

Power consumption

	TA-717/717M	TA-818/818M
US model	75 W	85 W
Canadian model	130 W	
AEP, UK, West Germany Italian model	85 W	105 W
UK model	165 W	225 W
E, Saudi Arabia model	100 W	105 W

Dimensions/Weight

	Dimensions* (w/h/d)	Weight
TA-717/717M	Approx. 225 x 120 x 270 mm ($8\frac{7}{8} \times 4\frac{3}{4} \times 10\frac{3}{4}$ inches)	Approx. 3.8 kg (8 lb 6 oz) net
TA-818/818M		Approx. 4.3 kg (9 lb 8 oz) net

* incl. projecting parts and controls

MICROFILM

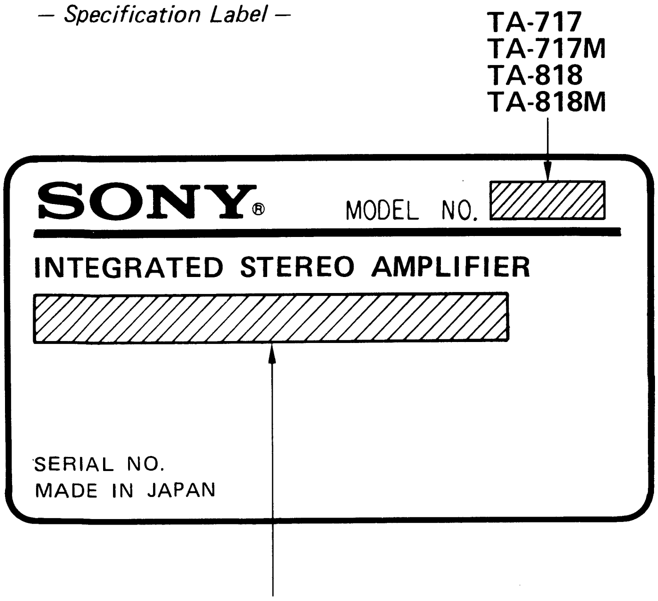
INTEGRATED STEREO AMPLIFIER

SONY®

SECTION 1
SERVICING NOTES

MODEL IDENTIFICATION

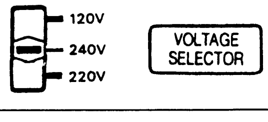
– Specification Label –



US, Canadian Model: AC: 120 V ~ 60 Hz
AEP, West Germany, Italian Model:
AC: 220 V ~ 50/60 Hz
UK Model: AC: 240 V ~ 50/60 Hz
E, Saudi Arabia Model: AC: 120/220/240 V ~ 50/60 Hz

On operating voltage

Before operating the unit, check that the operating voltage of your unit is identical with the voltage of your local power supply.

Where purchased	Operating voltage
US, Canadian Model	120 V AC
UK Model	240 V AC
AEP, West Germany Italian Model	220 V AC
E, Saudi Arabia Model	120 V, 220 V or 240 V AC adjustable by AC voltage selector 

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

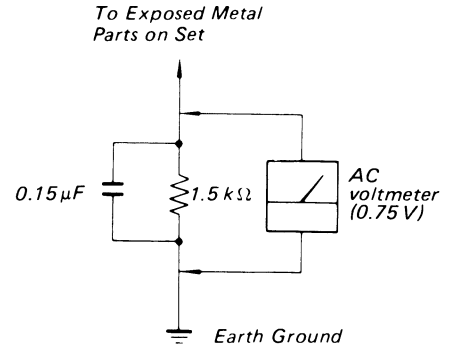


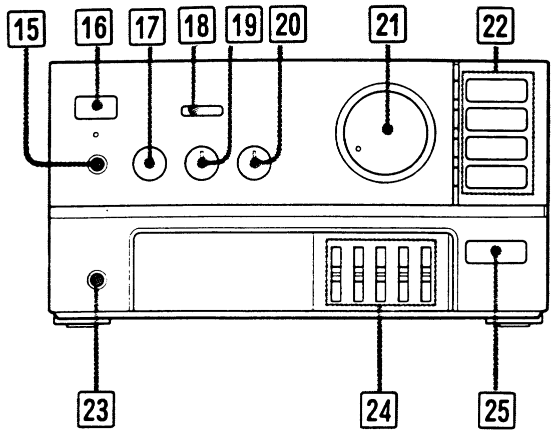
Fig. A. Using an AC voltmeter to check AC leakage.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 2
GENERAL

FUNCTION OF CONTROLS


15
16
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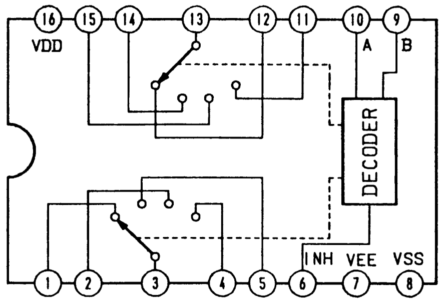
- 15 MIC (microphone) jack (minijack)
- 16 POWER switch
- 17 MIC LEVEL (microphone level) control
- 18 DBFB (Dynamic Bass Feedback) button
- 19 DBFB LEVEL control
- 20 BALANCE control
- 21 VOLUME control
- 22 Function selectors
- 23 HEADPHONES jack (stereo minijack)
- 24 GRAPHIC EQUALIZER controls
- 25 EQUALIZATION switch

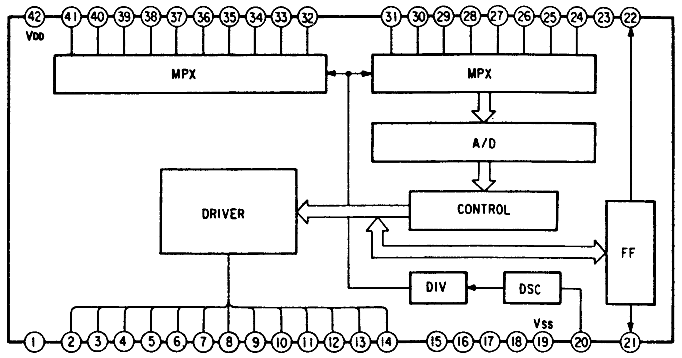
SECTION 3
DIAGRAMS

3-1. IC BLOCK DIAGRAMS

IC002 M4052BP


16 15 14 13 12 11 10 9
VDD
A
B
DECODER
INH VEE VSS
1 2 3 4 5 6 7 8

IC401 LC7566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31 30 29 28 27 26 25 24 23 22
VDD
MPX
MPX
A/D
DRIVER
CONTROL
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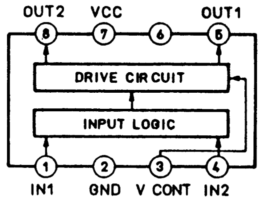
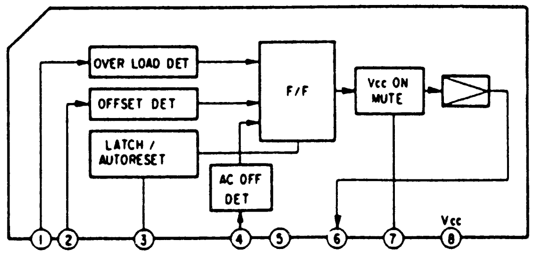
DIV
DSC
VSS
1 2 3 4 5 6 7 8 9 10 11 12 13 14
15 16 17 18 19 20 21

IC404 LB1639

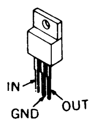

OUT2 VCC OUT1
8 7 6 5
DRIVE CIRCUIT
INPUT LOGIC
1 2 3 4
IN1 GND V CONT IN2

IC802 µPC1237HA

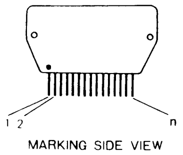

OVER LOAD DET
OFFSET DET
LATCH / AUTORESET
AC OFF DET
F/F
Vcc ON MUTE
Vcc
1 2 3 4 5 6 7 8

3-2. SEMICONDUCTOR LEAD LAYOUTS

M5F7806
M5F7808
M5F7812
M5F7908



STK4142MK2
STK4152II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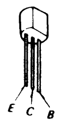
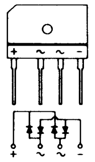
MARKING SIDE VIEW

2SA733
2SC1387
2SC1841-PA
2SD1387



RBV-402-01
RBV-602-01



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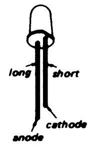
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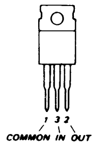
short
cathode
anode

M5F7924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COMMON IN OUT

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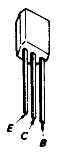
2SC4048



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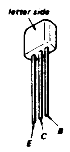
letter side
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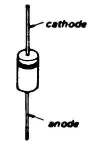
US1060M
UZL-7M3
UZP-3.3BB
UZ-4.3BSB
10E2N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anode

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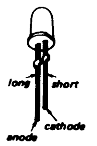
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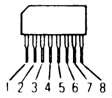
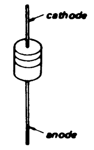
cathode
anode

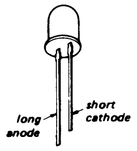
M5218L
µPC1237HA



HZS11B-3L


cathode
anode

SEL4214W


long
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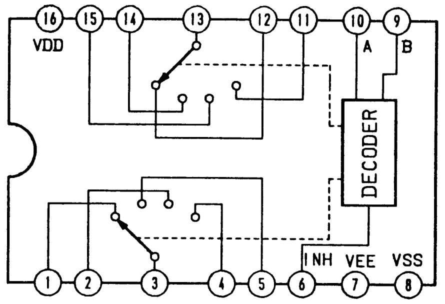
SECTION 3
DIAGRAMS

3-1. IC BLOCK DIAGRAMS

IC002 M4052BP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12
11
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VDD
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DECODER
INH
VEE
VSS
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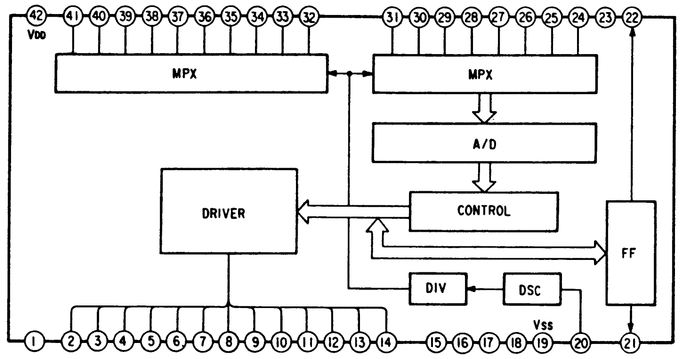
8

IC401 LC7566


VDD
MPX
MPX
A/D
DRIVER
CONTROL
FF
DIV
DSC
Vss
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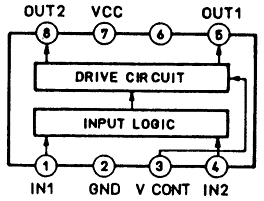
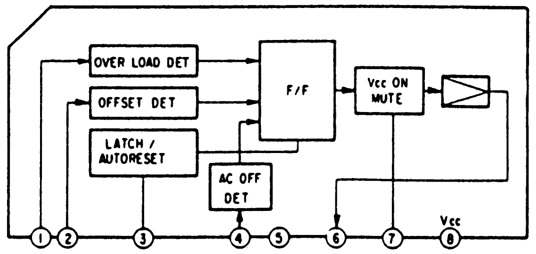
42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22

IC404 LB1639


OUT2
VCC
OUT1
8
7
6
5
DRIVE CIRCUIT
INPUT LOGIC
1
2
3
4
IN1
GND
V CONT
IN2

IC802 µPC1237HA


OVER LOAD DET
OFFSET DET
LATCH / AUTORESET
AC OFF DET
F/F
Vcc ON MUTE
Vcc
1
2
3
4
5
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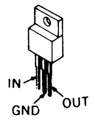
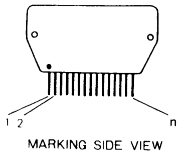
8

3-2. SEMICONDUCTOR LEAD LAYOUTS

M5F7806
M5F7808
M5F7812
M5F7908



STK4142MK2
STK4152II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MARKING SIDE VIEW

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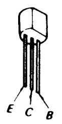
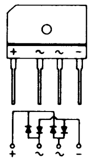
2SC1841-PA
2SD1387



RBV-402-01
RBV-602-01



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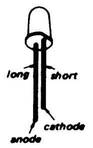
long
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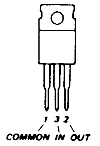
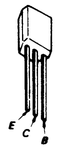
cathode
anode

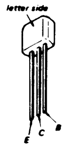
M5F7924


1 3 2
COMMON
IN
OUT

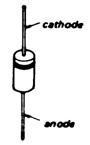
DTC114ES
2SC3400
2SC4048



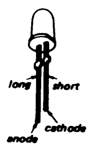
2SC2785


letter side
E
C
B

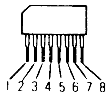
US1060M
UZL-7M3
UZP-3.3BB
UZ-4.3BSB
10E2N


cathode
anode

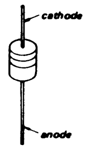
SEL1910W


long
short
cathode
anode

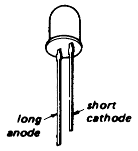
M5218L
µPC1237HA



HZS11B-3L


cathode
anode

SEL4214W


short
cathode
long
anode

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ⊟ : nonflammable resistor.
- ⊟ : fusible resistor.
- ━━ : B+ Line
- ▬▬▬ : B– Line
- Voltages are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : CD

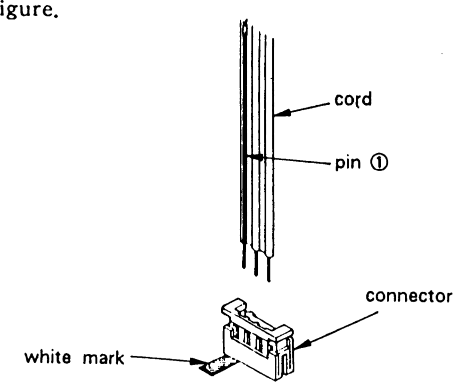
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	G-2	IC001	H-8
D201	I-5	IC002	J-7
D202	I-5	IC003	J-2
D203	I-4	IC101	H-3
D204	I-4	IC201	H-6
D401	E-11	IC202	H-6
D402	E-11	IC203	J-4
D403	C-15	IC301	D-9
D404	B-9	IC302	C-9
D405	B-9	IC303	C-12
D406	C-9	IC351	E-8
D407	C-9	IC401	E-13
D408	B-13	IC402	C-11
D409	B-13	IC403	D-14
D410	B-13	IC801	C-19
D411	D-11	IC802	B-22
D412	D-13	IC901	H-20
D413	D-14	IC902	H-19
D414	D-12		
D415	D-11	Q101	I-4
D416	D-11	Q102	G-3
D417	B-13	Q301	C-13
D418	B-15	Q302	C-14
D419	C-11	Q303	C-5
D420	C-11	Q351	C-13
D421	E-14	Q353	C-5
D422	B-2	Q401	C-10
D423	C-12	Q402	B-15
D801	B-19	Q403	C-10
D821	B-18	Q404	E-15
D822	B-21	Q406	C-4
D851	B-19	Q801	B-20
D901	H-18	Q802	B-21
D902	G-17	Q901	G-18
D903	H-14		
D904	G-19		
D905	H-19		
D906	G-19		
D907	H-19		
D911	I-19		

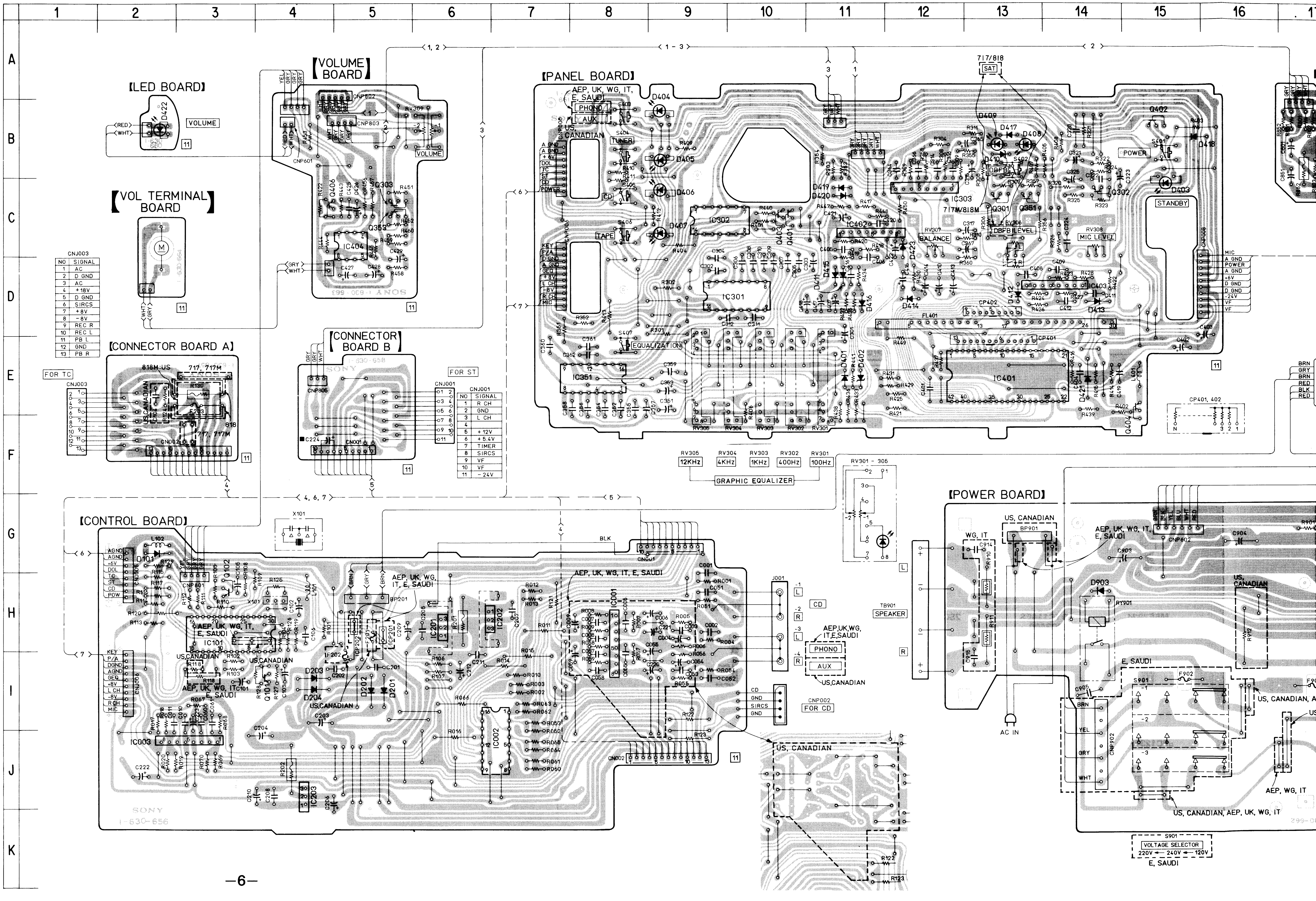
[Note on Inserting the Cord to the Connector on Tuner Board]

- Insert the cord to the connector fitting Pin ① of the cord in accordance with the white mark on the board at the connector as shown in the figure.


cord
pin ①
connector
white mark

3-3. PRINTED WIRING BOARDS

- See page 4 for Semiconductor Lead Layouts.



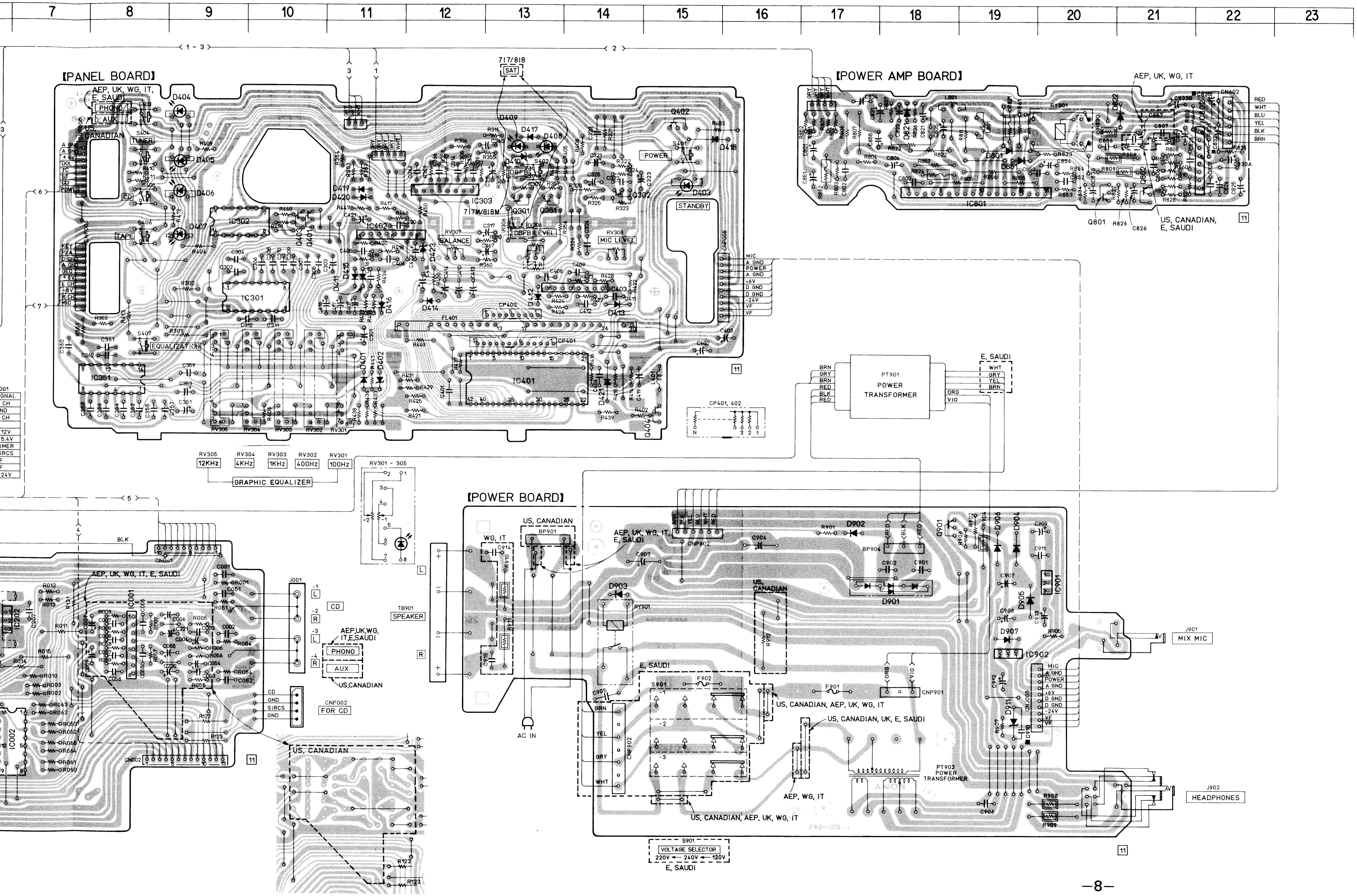
CNJ003

NO	SIGNAL
1	AC
2	D GND
3	AC
4	+18V
5	D GND
6	$\overline{\mathrm{SIRCS}}$
7	+8V
8	−8V
9	REC R
10	REC L
11	PB L
12	GND
13	PB R

CNJ001

NO	SIGNAL
1	R CH
2	GND
3	L CH
4	
5	+12V
6	+5.4V
7	TIMER
8	SIRCS
9	VF
10	VF
11	−24V

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
【LED BOARD】
D422
VOLUME
RED
WHT
【VOLUME BOARD】
CNP802
CNP803
CNP601
RV369
Q406
Q303
Q353
IC404
【VOL TERMINAL BOARD】
M
SONY 1-630-663
CNJ003
FOR TC
【CONNECTOR BOARD A】
818M:US
717, 717M
818
US,CANADIAN
CN002
【CONNECTOR BOARD B】
CNP805
CN001
C224
FOR ST
CNJ001
〈1, 2〉
〈1 - 3〉
〈2〉
〈3〉
〈6〉
〈7〉
【PANEL BOARD】
AEP, UK, WG, IT, E, SAUDI
PHONO
AUX
US, CANADIAN
TUNER
CD
TAPE
EQUALIZATION
D404
D405
D406
D407
IC302
IC301
IC351
IC303
717M/818M
IC462
IC401
IC403
717/818
SAT
D409
D417
D408
D410
DBFB
DBFB LEVEL
BALANCE
MIC LEVEL
POWER
STANDBY
Q402
Q301
Q351
Q302
Q404
D403
D418
FL401
CP401
CP402
CNP006
CNP008
A GND
+6V
DOL
TC
ST
CD
POWER
KEY
P/A
D GND
GEQ
+8V
L CH
−8V
R CH
MIC
A GND
VF
−24V
RV305
RV304
RV303
RV302
RV301
12KHz
4KHz
1KHz
400Hz
100Hz
GRAPHIC EQUALIZER
RV301 - 305
CP401, 402
BRN
GRY
BRN
RED
BLK
RED
〈4, 6, 7〉
〈5〉
【CONTROL BOARD】
X101
BLK
AGND
DGND
+6V
DOL
TC
ST
CD
POW
KEY
P/A
DGND
AGND
GEQ
+8V
L CH
−8V
R CH
MIC
CNJ006
CNP801
Q102
IC101
IC003
IC002
IC201
IC202
IC203
BP201
AEP, UK, WG, IT, E, SAUDI
US,CANADIAN
D101
D203
D204
D202
D201
IC001
CN001
CN002
J001
CD
PHONO
AUX
CD
GND
CIRCS
GND
CNP002
FOR CD
SONY 1-630-656
US, CANADIAN
R122
R123
TB901
SPEAKER
L
R
【POWER BOARD】
WG, IT
US, CANADIAN
BP901
AEP, UK, WG, IT, E, SAUDI
CNP602
D903
RY901
E, SAUDI
S901
F902
BRN
YEL
GRY
WHT
CNP902
AC IN
US, CANADIAN, AEP, UK, WG, IT
AEP, WG, IT
S901
VOLTAGE SELECTOR
220V ← 240V ← 120V
E, SAUDI


7
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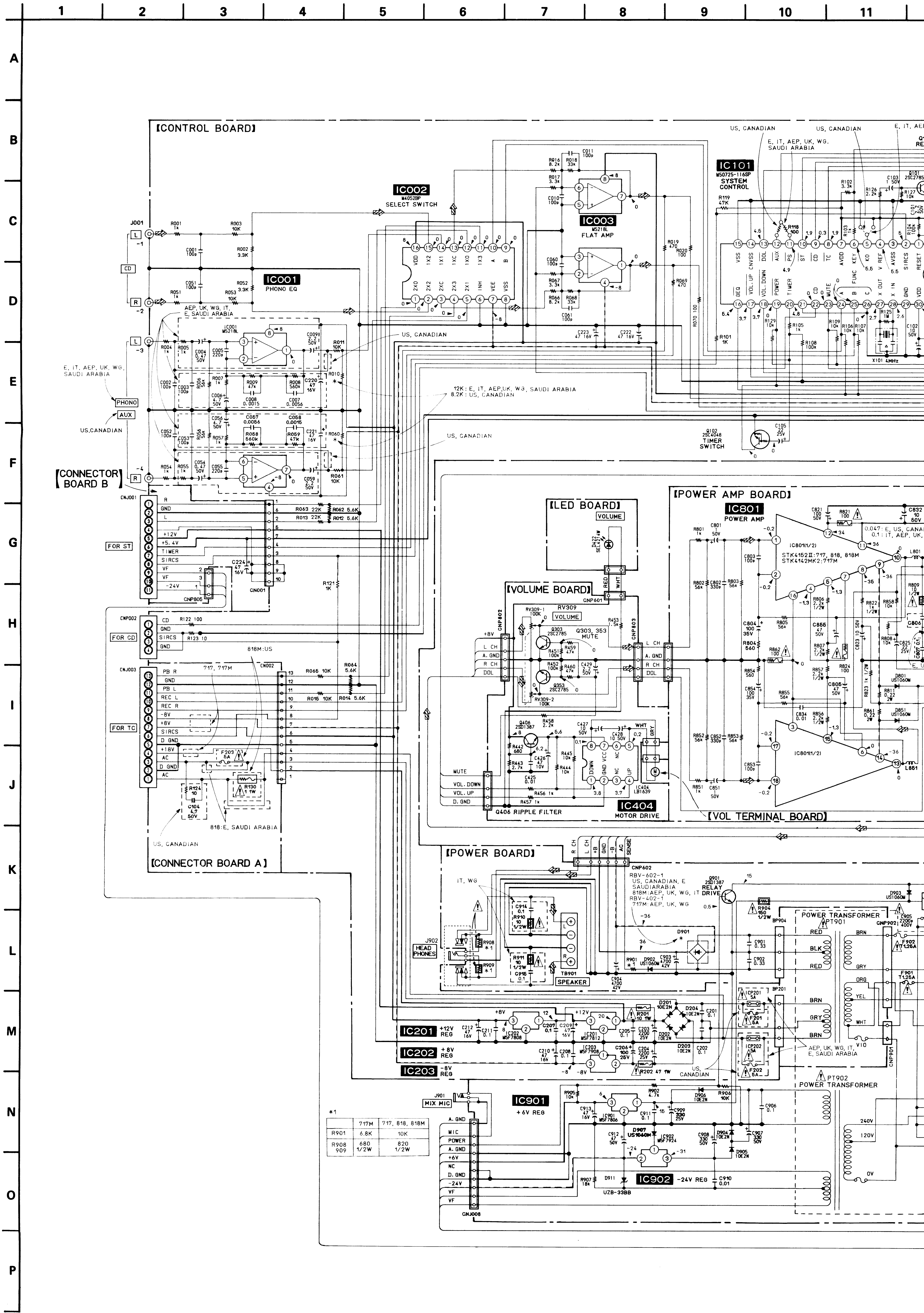
15
16
17
18
19
20
21
22
23
【PANEL BOARD】
【POWER AMP BOARD】
【POWER BOARD】
717/818
SAT
AEP, UK, WG, IT, E, SAUDI
PHONO
AUX
CANADIAN
TUNER
CD
TAPE
EQUALIZATION
POWER
STANDBY
BALANCE
DBFB
DBFB LEVEL
MIC LEVEL
717M/818M
IC301
IC302
IC303
IC351
IC401
IC402
IC403
FL401
CP401
CP402
CNP008
MIC
A GND
POWER
A GND
+6V
D GND
D GND
-24V
VF
VF
CP401, 402
RV305
RV304
RV303
RV302
RV301
12KHz
4KHz
1KHz
400Hz
100Hz
GRAPHIC EQUALIZER
RV301 - 305
PT901
POWER TRANSFORMER
E, SAUDI
BRN
GRY
BRN
RED
BLK
RED
WHT
GRY
YEL
BRN
ORG
VIO
AEP, UK, WG, IT
RY801
IC801
CN602
RED
WHT
BLU
YEL
BLK
BRN
Q801
US, CANADIAN, E, SAUDI
AEP, UK, WG, IT, E, SAUDI
IC001
IC002
J001
CD
PHONO
AUX
AEP,UK,WG, IT,E,SAUDI
US,CANADIAN
CNP002
FOR CD
CD
GND
SIRCS
GND
CN001
CN002
BLK
US, CANADIAN
TB901
SPEAKER
L
R
WG, IT
US, CANADIAN
BP901
AEP, UK, WG, IT, E, SAUDI
CNP602
D902
D903
RY901
D901
BP904
US, CANADIAN
E, SAUDI
S901
F902
F901
CNP901
CNP902
US, CANADIAN, AEP, UK, WG, IT
US, CANADIAN, UK, E, SAUDI
AEP, WG, IT
US, CANADIAN, AEP, UK, WG, IT
PT902
POWER TRANSFORMER
AC IN
IC901
IC902
D905
D906
D907
D911
J901
MIX MIC
J902
HEADPHONES
R908
R909
C906
S901
VOLTAGE SELECTOR
220V ← 240V → 120V
E, SAUDI
11

3-4. SCHEMATIC DIAGRAM • See page 4 for IC Block Diagrams. • See page 5 for notes.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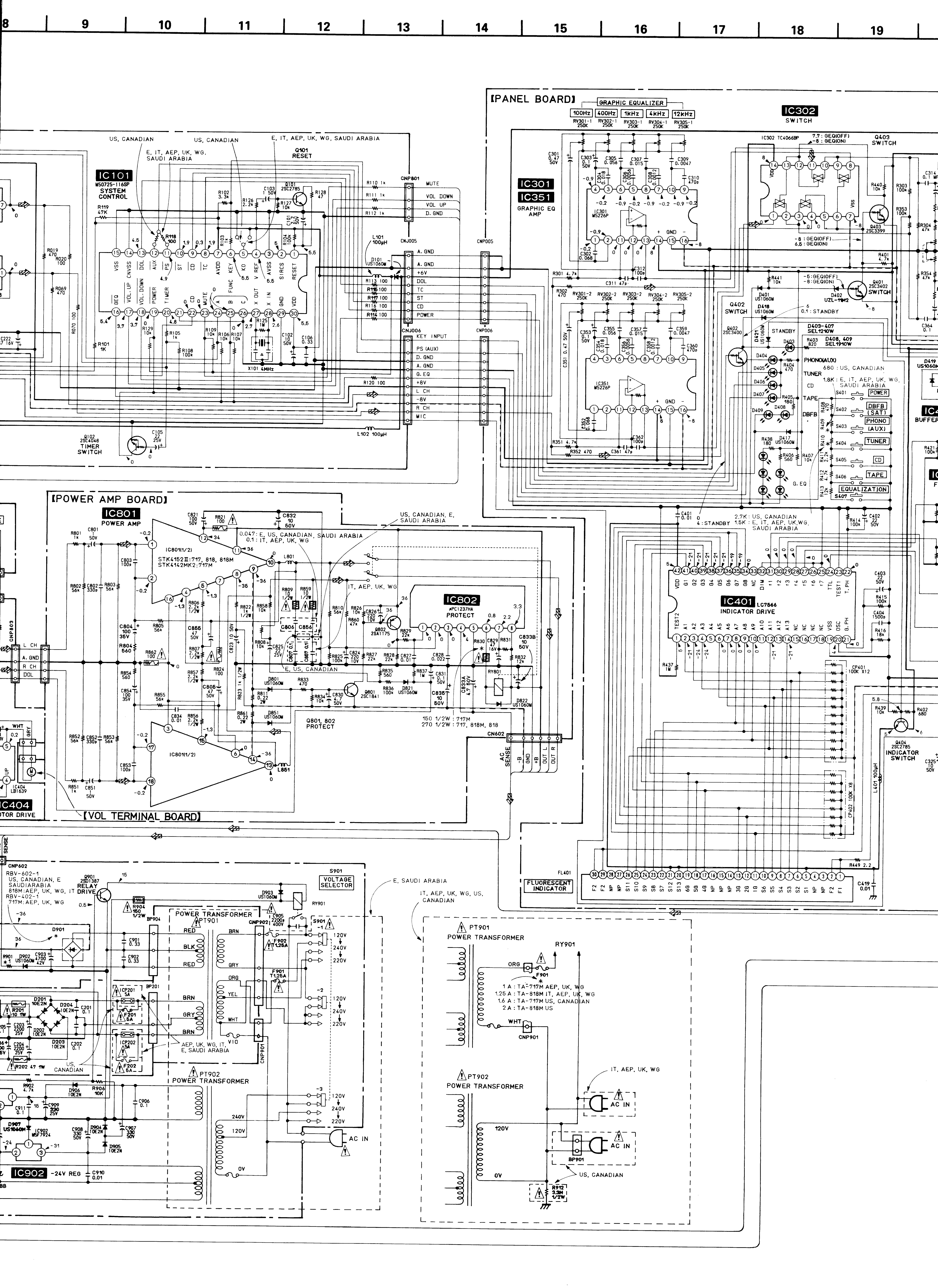
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
[CONTROL BOARD]
IC002
M4052BP
SELECT SWITCH
IC003
M5218L
FLAT AMP
IC001
PHONO EQ
IC101
M50725-116SP
SYSTEM CONTROL
US, CANADIAN
E, IT, AEP, UK, WG, SAUDI ARABIA
J001
CD
PHONO
AUX
AEP, UK, WG, IT, E, SAUDI ARABIA
12K: E, IT, AEP, UK, WG, SAUDI ARABIA
8.2K: US, CANADIAN
Q102
2SC4048
TIMER SWITCH
X101 4MHz
[CONNECTOR BOARD B]
CNJ001
FOR ST
R
GND
L
+12V
+5.4V
TIMER
SIRCS
VF
VF
-24V
CNP805
CN001
CNP002
FOR CD
CD
GND
SIRCS
GND
CNJ003
FOR TC
PB R
GND
PB L
REC L
REC R
-8V
+8V
SIRCS
D GND
+18V
AC
D GND
AC
CN002
717, 717M
818M:US
818:E, SAUDI ARABIA
US, CANADIAN
[CONNECTOR BOARD A]
[LED BOARD]
VOLUME
D422
SEL4214W
RED
WHT
CNP601
[VOLUME BOARD]
RV309
VOLUME
Q303, 353
MUTE
CNP802
CNP803
L CH
A. GND
R CH
DOL
Q406
2SD1387
Q406 RIPPLE FILTER
IC404
LB1639
MOTOR DRIVE
MUTE
VOL. DOWN
VOL. UP
D. GND
[POWER AMP BOARD]
IC801
POWER AMP
STK4152II: 717, 818, 818M
STK4142MK2: 717M
IC801(1/2)
0.047: E, US, CANADIAN
0.1: IT, AEP, UK
[VOL TERMINAL BOARD]
[POWER BOARD]
CNP602
R CH
L CH
+B
GND
-B
AC
SENSE
RBV-602-1
US, CANADIAN, E
SAUDIARABIA
818M: AEP, UK, WG, IT
RBV-402-1
717M: AEP, UK, WG
Q901
2SD1387
RELAY DRIVE
IT, WG
J902
HEAD PHONES
TB901
SPEAKER
POWER TRANSFORMER
PT901
RED
BLK
RED
BRN
GRY
ORG
YEL
WHT
BRN
GRY
BRN
F902
T1.25A
F901
T1.25A
CNP902
CNP901
BP904
BP201
V10
AEP, UK, WG, IT, E, SAUDI ARABIA
IC201
+12V REG
IC202
+8V REG
IC203
-8V REG
IC901
+6V REG
IC902
-24V REG
US, CANADIAN
PT902
POWER TRANSFORMER
240V
120V
0V
J901
MIX MIC
A. GND
MIC
POWER
A. GND
+6V
NC
D. GND
-24V
VF
VF
CNJ008
UZB-33BB

*1

	717M	717, 818, 818M
R901	6.8K	10K
R908 909	680 1/2W	820 1/2W



8
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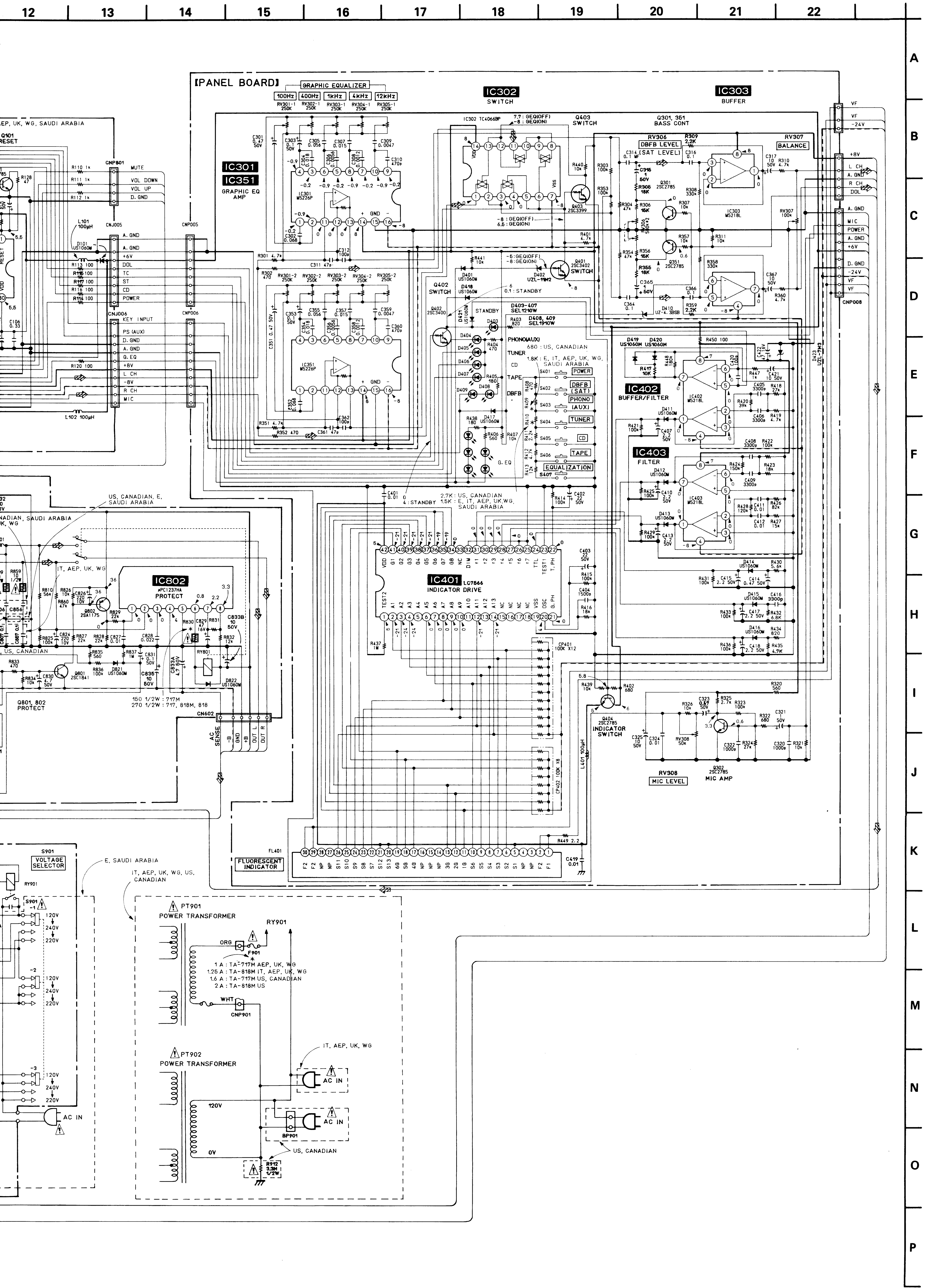
16
17
18
19
IC101
M50725-116SP
SYSTEM CONTROL
US, CANADIAN
E, IT, AEP, UK, WG, SAUDI ARABIA
Q101
RESET
CNP801
MUTE
VOL DOWN
VOL UP
D. GND
CNJ005
A. GND
+6V
DOL
TC
ST
CD
POWER
CNJ006
KEY INPUT
PS (AUX)
D. GND
A. GND
G. EQ
+8V
L CH
-8V
R CH
MIC
X101 4MHz
Q102
2SC4048
TIMER SWITCH
L101 100μH
L102 100μH
CNP005
CNP006
[PANEL BOARD]
GRAPHIC EQUALIZER
100Hz
400Hz
1kHz
4kHz
12kHz
IC301
IC351
GRAPHIC EQ AMP
IC301 M5226P
IC351 M5226P
IC302
SWITCH
IC302 TC4066BP
Q403
SWITCH
Q402
SWITCH
Q401
2SC3402
SWITCH
D402
UZL-11M2
STANDBY
D403-407
SEL1210W
D408, 409
SEL1910W
PHONO(AUX)
TUNER
CD
TAPE
DBFB
POWER
DBFB (SAT)
PHONO (AUX)
TUNER
CD
TAPE
EQUALIZATION
680 : US, CANADIAN
1.8K : E, IT, AEP, UK, WG, SAUDI ARABIA
G. EQ
2.7K : US, CANADIAN
1.5K : E, IT, AEP, UK, WG, SAUDI ARABIA
4 : STANDBY
IC401
LC7566
INDICATOR DRIVE
CP401 100K X12
CP402 100K X8
Q404
2SC2785
INDICATOR SWITCH
L401 100μH
FL401
FLUORESCENT INDICATOR
BUFFER
[POWER AMP BOARD]
IC801
POWER AMP
IC801(1/2)
STK4152II : 717, 818, 818M
STK4142MK2 : 717M
0.047 : E, US, CANADIAN, SAUDI ARABIA
0.1 : IT, AEP, UK, WG
US, CANADIAN, E, SAUDI ARABIA
IT, AEP, UK, WG
IC802
μPC1237HA
PROTECT
Q802
2SA1175
Q801
2SC1841
Q801, 802
PROTECT
RY801
150 1/2W : 717M
270 1/2W : 717, 818M, 818
CN602
AC SENSE
-B
GND
+B
OUT L
OUT R
CNP803
L CH
A. GND
R CH
DOL
IC404
LB1639
MOTOR DRIVE
[VOL TERMINAL BOARD]
CNP602
RBV-602-1
US, CANADIAN, E
SAUDIARABIA
818M : AEP, UK, WG, IT
RBV-402-1
717M : AEP, UK, WG
Q901
2SD1387
RELAY DRIVE
RY901
S901
VOLTAGE SELECTOR
POWER TRANSFORMER
PT901
PT902
POWER TRANSFORMER
F901
T1.25A
F902
T1.25A
120V
240V
220V
AC IN
AEP, UK, WG, IT, E, SAUDI ARABIA
US, CANADIAN
IC902
-24V REG
IC902 M5F7924
E, SAUDI ARABIA
IT, AEP, UK, WG, US, CANADIAN
1 A : TA-717M AEP, UK, WG
1.25 A : TA-818M IT, AEP, UK, WG
1.6 A : TA-717M US, CANADIAN
2 A : TA-818M US
CNP901
BP901
R912 3.3M 1/2W

12
13
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17
18
19
20
21
22
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
【PANEL BOARD】
GRAPHIC EQUALIZER
100Hz
400Hz
1kHz
4kHz
12kHz
RV301-1 250K
RV302-1 250K
RV303-1 250K
RV304-1 250K
RV305-1 250K
IC302
SWITCH
IC303
BUFFER
IC301
IC351
GRAPHIC EQ AMP
IC301 M5226P
IC351 M5226P
IC302 TC4066BP
7.7 : GEQ(OFF)
-8 : GEQ(ON)
Q403
SWITCH
Q403 2SC3399
Q301, 351
BASS CONT
RV306
DBFB LEVEL
(SAT LEVEL)
R309 2.2K
RV307
BALANCE
IC303 M5218L
Q301 2SC2785
Q351 2SC2785
D410 UZ-4.3BSB
AEP, UK, WG, SAUDI ARABIA
Q101
RESET
CNP801
MUTE
VOL DOWN
VOL UP
D. GND
CNJ005
CNP005
L101 100μH
D101 US1060M
A. GND
+6V
DOL
TC
ST
CD
POWER
CNJ006
KEY INPUT
PS (AUX)
D. GND
A. GND
G. EQ
+8V
L CH
-8V
R CH
MIC
CNP006
L102 100μH
R120 100
Q402
SWITCH
Q402 2SC3400
Q401 2SC3402
SWITCH
D402 UZL-11M2
-6 : GEQ(OFF)
-8 : GEQ(ON)
6
0.1 : STANDBY
STANDBY
D403-407 SEL1210W
D408, 409 SEL1910W
PHONO(AUX)
TUNER
CD
TAPE
DBFB
680 : US, CANADIAN
1.8K : E, IT, AEP, UK, WG, SAUDI ARABIA
S401 POWER
S402 DBFB (SAT)
S403 PHONO (AUX)
S404 TUNER
S405 CD
S406 TAPE
S407 EQUALIZATION
G. EQ
D419 US1060M
D420 US1060M
R450 100
IC402
BUFFER/FILTER
IC402 M5218L
IC403
FILTER
IC403 M5218L
D423 UZL-7M3
VF
-24V
+8V
L CH
A. GND
R CH
DOL
A. GND
MIC
POWER
A. GND
+6V
D. GND
-24V
VF
VF
CNP008
US, CANADIAN, E, SAUDI ARABIA
CANADIAN, SAUDI ARABIA
UK, WG
IT, AEP, UK, WG
IC802
μPC1237HA
PROTECT
Q802 2SA1175
Q801 2SC1841
Q801, 802
PROTECT
RY801
D821 US1060M
D822 US1060M
150 1/2W : 717M
270 1/2W : 717, 818M, 818
CN602
AC SENSE
-B
GND
+B
OUT L
OUT R
US, CANADIAN
C401 0.01
0
4 : STANDBY
2.7K : US, CANADIAN
1.5K : E, IT, AEP, UK, WG, SAUDI ARABIA
IC401 LC7566
INDICATOR DRIVE
VDD G1 G2 G3 G4 G5 G6 G7 G8 NC DIM T1 T2 T3 T4 TTL TEST1 T.PH
TEST2 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 NC NC NC NC VSS OSC G.PH
CP401 100K X12
CP402 100K X8
L401 100μH
Q404 2SC2785
INDICATOR SWITCH
RV308
MIC LEVEL
Q302 2SC2785
MIC AMP
R449 2.2
FL401
FLUORESCENT INDICATOR
F2 F2 NP NP S11 S10 S9 S8 S7 S13 S12 6B 5B 4B NP NP 3B 2B 1B S6 S5 S4 S3 S2 S1 NP NP F2 F1 F1
C419 0.01
S901
VOLTAGE SELECTOR
RY901
E, SAUDI ARABIA
IT, AEP, UK, WG, US, CANADIAN
120V
240V
220V
AC IN
PT901
POWER TRANSFORMER
RY901
ORG
F901
1 A : TA-717M AEP, UK, WG
1.25 A : TA-818M IT, AEP, UK, WG
1.6 A : TA-717M US, CANADIAN
2 A : TA-818M US
WHT
CNP901
IT, AEP, UK, WG
AC IN
PT902
POWER TRANSFORMER
120V
0V
BP901
US, CANADIAN
R912 3.3M 1/2W

SECTION 4
EXPLODED VIEW

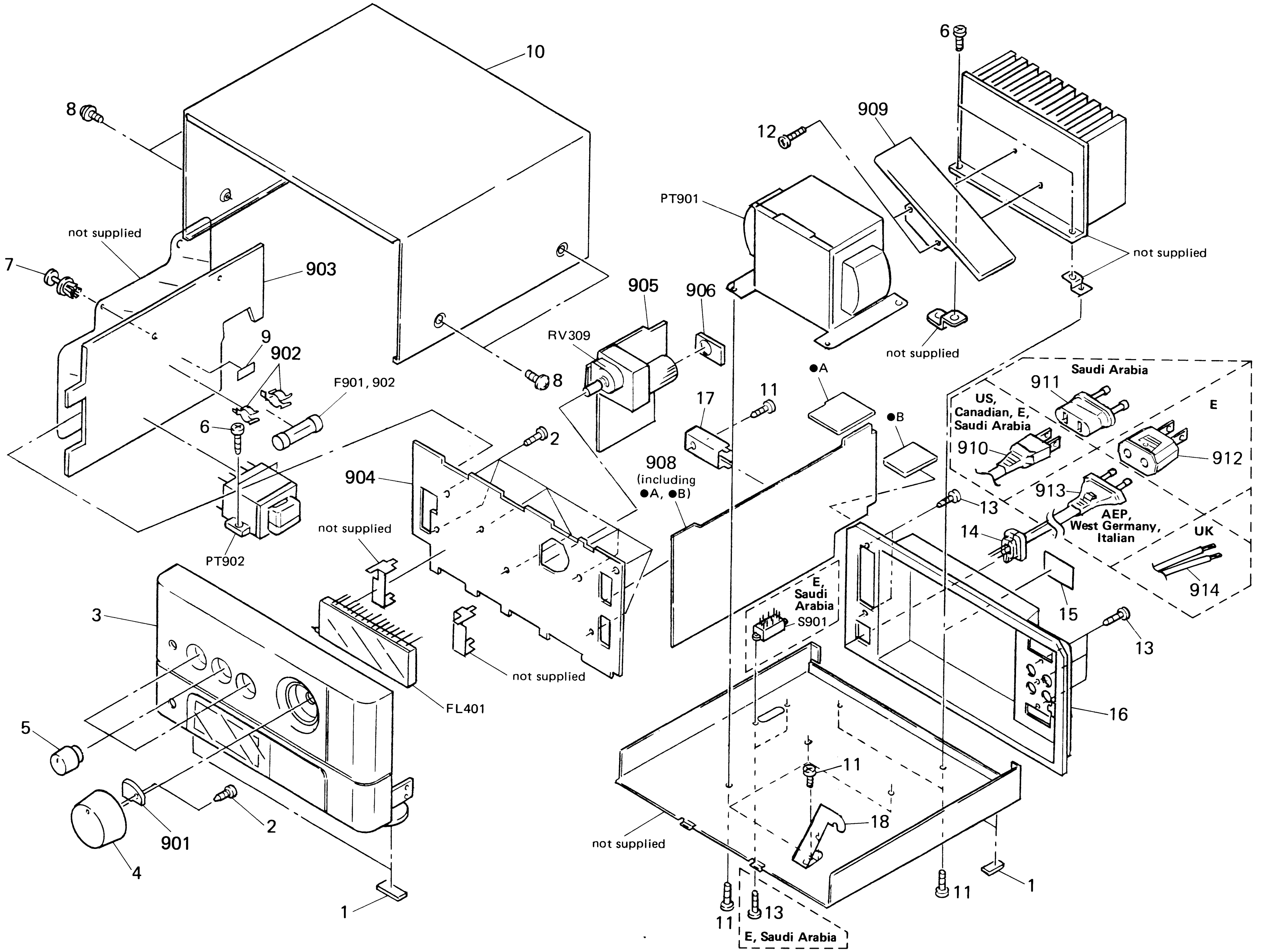
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

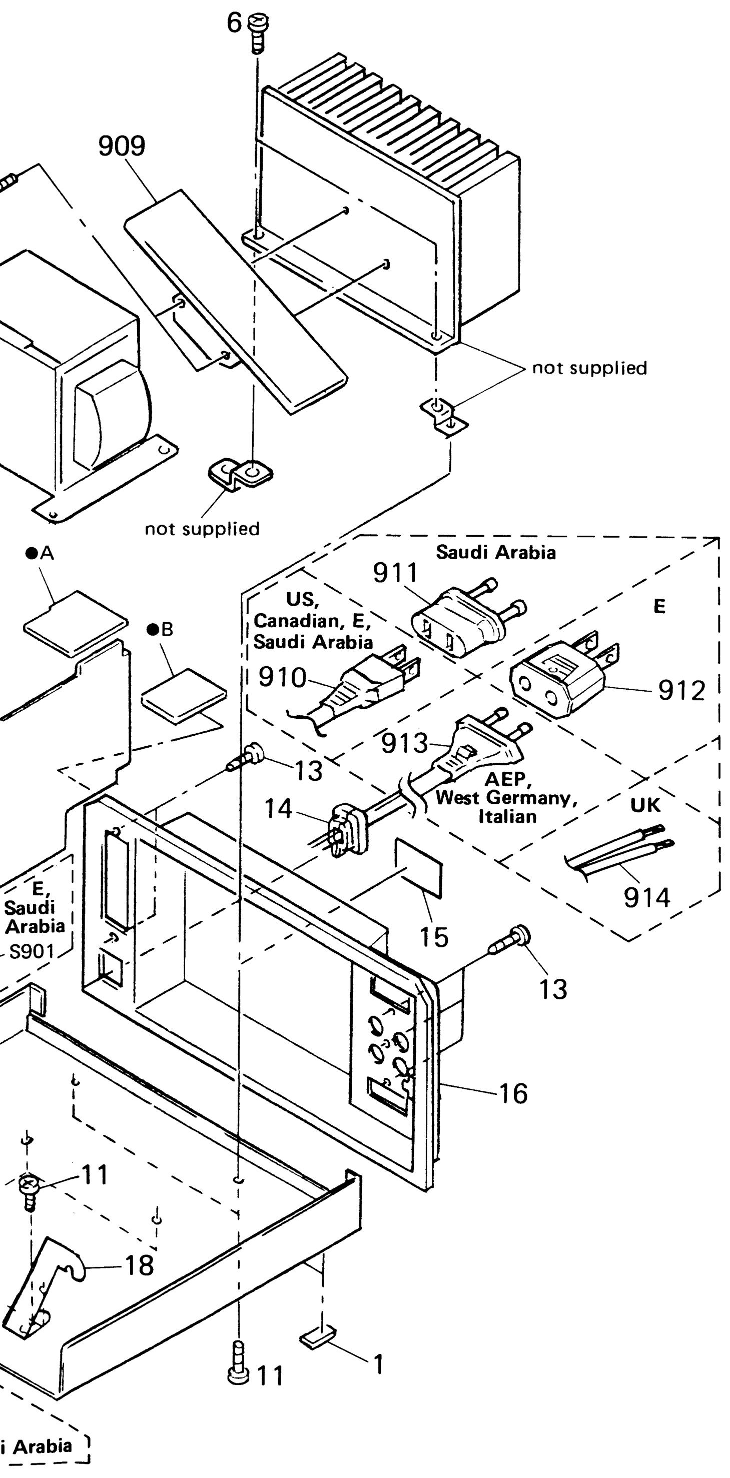
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.



No.	Part No.	Description	Remarks
1	4-930-336-01	FOOT (FELT)	
2	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
3	X-4930-301-1	(818M:US)...PANEL ASSY, FRONT	
	X-4930-302-1	(818).......PANEL ASSY, FRONT	
	X-4930-304-1	(717).......PANEL ASSY, FRONT	
	X-4930-305-1	(717M:US,Canadian)....PANEL ASSY, FRONT	
	X-4930-308-1	(818M:AEP,UK,WG,IT)...PANEL ASSY, FRONT	
	X-4930-309-1	(717M:AEP,UK,WG)......PANEL ASSY, FRONT	
4	X-4930-303-1	KNOB ASSY	
5	4-930-323-01	KNOB	
6	7-682-548-04	SCREW +BVTT 3X8 (S)	
7	4-812-134-11	RIVET NYLON, 3.5	
8	3-704-366-01	SCREW (CASE) (M3X8)	
9	*3-701-946-22	(717M:US,Canadian)...LABEL (1.6A 125V), FUSE	
	*3-701-946-23	(818M:US).........LABEL (2A 125V), FUSE	
	*3-701-947-11	(717M:AEP,UK,WG)......LABEL (T1A), FUSE	
10	4-930-355-01	(818M:US)..................CASE	
	4-930-355-21	(717M,818M:AEP,UK,WG,IT)...CASE	
	4-930-355-31	(E,Saudi Arabia)...........CASE	
11	7-682-547-04	SCREW +BVTT 3X6 (S)	
12	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
13	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
14	3-703-571-00	(E)..........BUSHING (S) (4516), CORD	
	*3-703-244-00	(EXCEPT for E)...BUSHING (2104), CORD	
15	*4-930-301-01	(717M:US)....LABEL, MODEL NUMBER (U)	
	*4-930-302-01	(717M:AEP)...LABEL, MODEL NUMBER (AE)	
	*4-930-303-01	(717M:WG)....LABEL, MODEL NUMBER (AE4)	
	*4-930-304-01	(717M:UK)....LABEL, MODEL NUMBER (UK)	
	*4-930-305-01	(717)........LABEL, MODEL NUMBER (E2/E3)	
	*4-930-306-01	(717M:Canadian)...LABEL, MODEL NUMBER(C)	
	*4-930-307-01	(818M:US)....LABEL, MODEL NUMBER (U)	
	*4-930-308-01	(818M:IT)....LABEL, MODEL NUMBER (IT)	
	*4-930-309-01	(818M:AEP)...LABEL, MODEL NUMBER (AE)	
	*4-930-310-01	(818M:WG)....LABEL, MODEL NUMBER (AE4)	
	*4-930-311-01	(818M:UK)....LABEL, MODEL NUMBER (UK)	
	*4-930-312-01	(818)......LABEL, MODEL NUMBER (E2/E3)	
16	*4-930-328-01	PANEL, BACK	
17	*3-309-144-21	HEAT SINK	
18	*3-327-845-01	BRACKET	
901	*1-630-660-11	PC BOARD, LED	
902	*1-533-213-31	HOLDER, FUSE	
903	*1-630-662-11	PC BOARD, POWER	
904	*A-4333-306-A	(AEP,UK,E,Saudi Arabia) ...MOUNTED PCB, PANEL	
	*A-4333-312-A	(WG,IT)..........MOUNTED PCB, PANEL	
	*A-4333-317-A	(US,Canadin).....MOUNTED PCB, PANEL	
905	*1-630-663-11	PC BOARD, VOL	
906	*1-630-664-11	PC BOARD, VOL TERMINAL	
908	*A-4333-305-A	(717,717M:AEP,UK)....MOUNTED PCB, CONTROL	
	*A-4333-311-A	(717M:WG)............MOUNTED PCB, CONTROL	
	*A-4333-316-A	(717M:US,Canadian)...MOUNTED PCB, CONTROL	
	*A-4333-326-A	(818M:WG,IT).........MOUNTED PCB, CONTROL	
	*A-4333-363-A	(818,818M:AEP,UK)....MOUNTED PCB, CONTROL	
	*A-4333-389-A	(818M:US)............MOUNTED PCB, CONTROL	
909	⚠.1-630-659-11	PC BOARD, POWER AMP	
910	⚠.1-551-188-XX	(E).............CORD, POWER	
	⚠.1-557-577-11	(US,Canadian)...CORD, POWER	
911	⚠.1-526-565-00	(E)...AC PLUG ADAPTOR	
912	⚠.1-506-401-11	(Saudi Arabia)...ADAPTOR, CONVERSION	
913	⚠.1-555-750-00	(AEP,WG,IT,Saudi Arabia)...CORD, POWER	
914	⚠.1-556-037-00	(UK)...CORD, POWER	
F901	⚠.1-532-285-00	(E,Saudi Arabia,818M:AEP,UK,WG,IT) ...FUSE, TIME-LAG (1.25A)	
F901	⚠.1-532-078-00	(717M:AEP,UK)........FUSE, TIME-LAG (1A)	
F901	⚠.1-532-742-11	(717M:US,Canadian)...FUSE, GLASS TUBE (1.6A)	
F901	⚠.1-532-743-11	(818M:US)...........FUSE, GLASS TUBE(2A)	
F902	⚠.1-532-285-00	(E,Saudi Arabia)...FUSE, TIME-LAG(1.25A)	
FL401	1-519-516-11	INDICATOR TUBE, FLUORESCENT	
PT901	⚠.1-449-561-11	(E,Saudi Arabia).....TRANSFORMER, POWER	
PT901	⚠.1-449-562-11	(717M:UK)............TRANSFORMER, POWER	
PT901	⚠.1-449-563-11	(717M:AEP,UK)........TRANSFORMER, POWER	
PT901	⚠.1-449-564-11	(717M:US,Canadian)...TRANSFORMER, POWER	
PT901	⚠.1-449-568-11	(818M:UK)............TRANSFORMER, POWER	
PT901	⚠.1-449-569-11	(818M:AEP,WG,IT).....TRANSFORMER, POWER	
PT901	⚠.1-449-570-11	(818M:US)............TRANSFORMER, POWER	
PT902	⚠.1-449-565-11	(E,Saudi Arabia)...TRANSFORMER, POWER	
PT902	⚠.1-449-566-11	(AEP,UK,WG,IT).....TRANSFORMER, POWER	
PT902	⚠.1-449-567-11	(US,Canadian)......TRANSFORMER, POWER	

No.	Part No.	Description	Remarks
1	4-930-336-01	FOOT (FELT)	
2	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
3	X-4930-301-1	(818M:US)...PANEL ASSY, FRONT	
	X-4930-302-1	(818).......PANEL ASSY, FRONT	
	X-4930-304-1	(717).......PANEL ASSY, FRONT	
	X-4930-305-1	(717M:US,Canadian)....PANEL ASSY, FRONT	
	X-4930-308-1	(818M:AEP,UK,WG,IT)...PANEL ASSY, FRONT	
	X-4930-309-1	(717M:AEP,UK,WG)......PANEL ASSY, FRONT	
4	X-4930-303-1	KNOB ASSY	
5	4-930-323-01	KNOB	
6	7-682-548-04	SCREW +BVTT 3X8 (S)	
7	4-812-134-11	RIVET NYLON, 3.5	
8	3-704-366-01	SCREW (CASE) (M3X8)	
9	*3-701-946-22	(717M:US,Canadian)...LABEL (1.6A 125V), FUSE	
	*3-701-946-23	(818M:US).........LABEL (2A 125V), FUSE	
	*3-701-947-11	(717M:AEP,UK,WG)......LABEL (T1A), FUSE	
10	4-930-355-01	(818M:US)..................CASE	
	4-930-355-21	(717M,818M:AEP,UK,WG,IT)...CASE	
	4-930-355-31	(E,Saudi Arabia)...........CASE	
11	7-682-547-04	SCREW +BVTT 3X6 (S)	
12	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
13	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
14	3-703-571-00	(E)..........BUSHING (S) (4516), CORD	
	*3-703-244-00	(EXCEPT for E)...BUSHING (2104), CORD	
15	*4-930-301-01	(717M:US)....LABEL, MODEL NUMBER (U)	
	*4-930-302-01	(717M:AEP)...LABEL, MODEL NUMBER (AE)	
	*4-930-303-01	(717M:WG)....LABEL, MODEL NUMBER (AE4)	
	*4-930-304-01	(717M:UK)....LABEL, MODEL NUMBER (UK)	
	*4-930-305-01	(717)........LABEL, MODEL NUMBER (E2/E3)	
	*4-930-306-01	(717M:Canadian)...LABEL, MODEL NUMBER(C)	
	*4-930-307-01	(818M:US)....LABEL, MODEL NUMBER (U)	
	*4-930-308-01	(818M:IT)....LABEL, MODEL NUMBER (IT)	
	*4-930-309-01	(818M:AEP)...LABEL, MODEL NUMBER (AE)	
	*4-930-310-01	(818M:WG)....LABEL, MODEL NUMBER (AE4)	
	*4-930-311-01	(818M:UK)....LABEL, MODEL NUMBER (UK)	
	*4-930-312-01	(818)......LABEL, MODEL NUMBER (E2/E3)	
16	*4-930-328-01	PANEL, BACK	
17	*3-309-144-21	HEAT SINK	
18	*3-327-845-01	BRACKET	
901	*1-630-660-11	PC BOARD, LED	
902	*1-533-213-31	HOLDER, FUSE	
903	*1-630-662-11	PC BOARD, POWER	
904	*A-4333-306-A	(AEP,UK,E,Saudi Arabia) ...MOUNTED PCB, PANEL	
	*A-4333-312-A	(WG,IT)..........MOUNTED PCB, PANEL	
	*A-4333-317-A	(US,Canadin).....MOUNTED PCB, PANEL	
905	*1-630-663-11	PC BOARD, VOL	
906	*1-630-664-11	PC BOARD, VOL TERMINAL	
908	*A-4333-305-A	(717,717M:AEP,UK)....MOUNTED PCB, CONTROL	
	*A-4333-311-A	(717M:WG)............MOUNTED PCB, CONTROL	
	*A-4333-316-A	(717M:US,Canadian)...MOUNTED PCB, CONTROL	
	*A-4333-326-A	(818M:WG,IT).........MOUNTED PCB, CONTROL	
	*A-4333-363-A	(818,818M:AEP,UK)....MOUNTED PCB, CONTROL	
	*A-4333-389-A	(818M:US)............MOUNTED PCB, CONTROL	
909	⚠.1-630-659-11	PC BOARD, POWER AMP	
910	⚠.1-551-188-XX	(E).............CORD, POWER	
	⚠.1-557-577-11	(US,Canadian)...CORD, POWER	
911	⚠.1-526-565-00	(E)...AC PLUG ADAPTOR	
912	⚠.1-506-401-11	(Saudi Arabia)...ADAPTOR, CONVERSION	
913	⚠.1-555-750-00	(AEP,WG,IT,Saudi Arabia)...CORD, POWER	
914	⚠.1-556-037-00	(UK)...CORD, POWER	
F901	⚠.1-532-285-00	(E,Saudi Arabia,818M:AEP,UK,WG,IT) ...FUSE, TIME-LAG (1.25A)	
F901	⚠.1-532-078-00	(717M:AEP,UK)........FUSE, TIME-LAG (1A)	
F901	⚠.1-532-742-11	(717M:US,Canadian)...FUSE, GLASS TUBE (1.6A)	
F901	⚠.1-532-743-11	(818M:US)...........FUSE, GLASS TUBE(2A)	
F902	⚠.1-532-285-00	(E,Saudi Arabia)...FUSE, TIME-LAG(1.25A)	
FL401	1-519-516-11	INDICATOR TUBE, FLUORESCENT	
PT901	⚠.1-449-561-11	(E,Saudi Arabia).....TRANSFORMER, POWER	
PT901	⚠.1-449-562-11	(717M:UK)............TRANSFORMER, POWER	
PT901	⚠.1-449-563-11	(717M:AEP,UK)........TRANSFORMER, POWER	
PT901	⚠.1-449-564-11	(717M:US,Canadian)...TRANSFORMER, POWER	
PT901	⚠.1-449-568-11	(818M:UK)............TRANSFORMER, POWER	
PT901	⚠.1-449-569-11	(818M:AEP,WG,IT).....TRANSFORMER, POWER	
PT901	⚠.1-449-570-11	(818M:US)............TRANSFORMER, POWER	
PT902	⚠.1-449-565-11	(E,Saudi Arabia)...TRANSFORMER, POWER	
PT902	⚠.1-449-566-11	(AEP,UK,WG,IT).....TRANSFORMER, POWER	
PT902	⚠.1-449-567-11	(US,Canadian)......TRANSFORMER, POWER	



SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
901	*1-630-660-11	PC BOARD, LED
902	*1-533-213-31	HOLDER, FUSE
903	*1-630-662-11	PC BOARD, POWER
904	*A-4333-306-A	(AEP,UK,E,Saudi Arabia) ...MOUNTED PCB, PANEL
	*A-4333-312-A	(WG,IT).........MOUNTED PCB, PANEL
	*A-4333-317-A	(US,Canadin)....MOUNTED PCB, PANEL
905	*1-630-663-11	PC BOARD, VOL
906	*1-630-664-11	PC BOARD, VOL TERMINAL
908	*A-4333-305-A	(717,717M:AEP,UK) ...MOUNTED PCB, CONTROL
	*A-4333-311-A	(717M:WG).......MOUNTED PCB, CONTROL
	*A-4333-316-A	(717M:US,Canadian) ...MOUNTED PCB, CONTROL
	*A-4333-326-A	(818M:WG,IT)....MOUNTED PCB, CONTROL
	*A-4333-363-A	(818,818M:AEP,UK) ...MOUNTED PCB, CONTROL
	*A-4333-389-A	(818M:US).......MOUNTED PCB, CONTROL
909	⚠.1-630-659-11	PC BOARD, POWER AMP
910	⚠.1-551-188-XX	(E).............CORD, POWER
	⚠.1-557-577-11	(US,Canadian)...CORD, POWER
911	⚠.1-526-565-00	(E)....AC PLUG ADAPTOR
912	⚠.1-506-401-11	(Saudi Arabia)...ADAPTOR, CONVERSION
913	⚠.1-555-750-00	(AEP,WG,IT,Saudi Arabia)...CORD, POWER
914	⚠.1-556-037-00	(UK)...CORD, POWER
BP201	*1-508-830-12	H TYPE BASE POST
BP901	*1-535-139-12	(US,Canadian)..BASE POST 22MM(10MM PICH)
BP904	*1-508-830-12	H TYPE BASE POST
C001	1-162-282-31	CERAMIC 100PF 10% 50V
C002	1-162-282-31	CERAMIC 100PF 10% 50V
C003	1-162-282-31	(AEP,UK,WG,IT,E,Saudi Arabia) ...CERAMIC 100PF 10% 50V
C004	1-124-902-00	(AEP,UK,WG,IT,E,Saudi Arabia) ...ELECT 0.47MF 20% 50V
C005	1-162-286-31	(AEP,UK,WG,IT,E,Saudi Arabia) ...CERAMIC 220PF 10% 50V
C006	1-124-927-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...ELECT 4.7MF 20% 50V
C007	1-130-480-00	(AEP,UK,WG,IT,E,Saudi Arabia) ...MYLAR 0.0056MF 5% 50V
C008	1-130-473-00	(AEP,UK,WG,IT,E,Saudi Arabia) ...MYLAR 0.0015MF 5% 50V
C009	1-124-925-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...ELECT 2.2MF 20% 50V
C010	1-162-282-31	CERAMIC 100PF 10% 50V
C011	1-162-282-31	CERAMIC 100PF 10% 50V
C051	1-162-282-31	CERAMIC 100PF 10% 50V
C052	1-162-282-31	CERAMIC 100PF 10% 50V
C053	1-162-282-31	(AEP,UK,WG,IT,E,Saudi Arabia) ...CERAMIC 100PF 10% 50V
C054	1-124-902-00	(AEP,UK,WG,IT,E,Saudi Arabia) ...ELECT 0.47MF 20% 50V
C055	1-162-286-31	(AEP,UK,WG,IT,E,Saudi Arabia) ...CERAMIC 220PF 10% 50V
C056	1-124-927-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...ELECT 4.7MF 20% 50V
C057	1-130-480-00	(AEP,UK,WG,IT,E,Saudi Arabia) ...MYLAR 0.0056MF 5% 50V
C058	1-130-473-00	(AEP,UK,WG,IT,E,Saudi Arabia) ...MYLAR 0.0015MF 5% 50V
C059	1-124-925-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...ELECT 2.2MF 20% 50V
C060	1-162-282-31	CERAMIC 100PF 10% 50V
C061	1-162-282-31	CERAMIC 100PF 10% 50V
C101	1-124-925-11	ELECT 2.2MF 20% 50V
C102	1-123-875-11	ELECT 10MF 20% 50V
C103	1-124-499-11	ELECT 1MF 20% 50V
C104	1-124-768-11	(US,Canadian)...ELECT 4.7MF 20% 50V
C105	1-126-233-11	ELECT 22MF 20% 25V
C106	1-136-171-00	FILM 0.33MF 5% 50V
C201	1-136-165-00	FILM 0.1MF 5% 50V
C202	1-136-165-00	FILM 0.1MF 5% 50V
C203	1-124-563-11	ELECT 2200MF 20% 25V
C204	1-124-563-11	ELECT 2200MF 20% 25V
C205	1-136-165-00	FILM 0.1MF 5% 50V
C206	1-124-478-11	ELECT 100MF 20% 25V
C207	1-136-165-00	FILM 0.1MF 5% 50V
C208	1-136-165-00	FILM 0.1MF 5% 50V
C209	1-124-477-11	ELECT 47MF 20% 16V
C210	1-124-477-11	ELECT 47MF 20% 16V
C211	1-136-165-00	FILM 0.1MF 5% 50V
C212	1-124-477-11	ELECT 47MF 20% 16V
C220	1-124-477-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...ELECT 47MF 20% 16V
C221	1-124-477-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...ELECT 47MF 20% 16V
C222	1-124-477-11	ELECT 47MF 20% 16V
C223	1-124-477-11	ELECT 47MF 20% 16V
C224	1-124-477-11	ELECT 47MF 20% 16V
C301	1-124-902-00	ELECT 0.47MF 20% 50V
C302	1-136-163-00	FILM 0.068MF 5% 50V
C303	1-124-463-00	ELECT 0.1MF 20% 50V
C304	1-136-156-00	FILM 0.018MF 5% 50V
C305	1-136-162-00	FILM 0.056MF 5% 50V
C306	1-130-480-00	MYLAR 0.0056MF 5% 50V

Ref.No.	Part No.	Description			
C307	1-136-155-00	FILM	0.015MF	5%	50V
C308	1-130-472-00	MYLAR	0.0012MF	5%	50V
C309	1-130-479-00	MYLAR	0.0047MF	5%	50V
C310	1-130-467-00	MYLAR	470PF	5%	50V
C311	1-162-215-31	CERAMIC	47PF	5%	50V
C312	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-136-165-00	FILM	0.1MF	5%	50V
C315	1-124-499-11	ELECT	1MF	20%	50V
C316	1-136-165-00	FILM	0.1MF	5%	50V
C317	1-123-875-11	ELECT	10MF	20%	50V
C320	1-162-294-31	CERAMIC	0.001MF	10%	50V
C321	1-124-499-11	ELECT	1MF	20%	50V
C322	1-162-294-31	CERAMIC	0.001MF	10%	50V
C323	1-124-902-00	ELECT	0.47MF	20%	50V
C324	1-161-379-00	CERAMIC	0.01MF	30%	16V
C325	1-123-875-11	ELECT	10MF	20%	50V
C351	1-124-902-00	ELECT	0.47MF	20%	50V
C352	1-136-163-00	FILM	0.068MF	5%	50V
C353	1-124-463-00	ELECT	0.1MF	20%	50V
C354	1-136-156-00	FILM	0.018MF	5%	50V
C355	1-136-162-00	FILM	0.056MF	5%	50V
C356	1-130-480-00	MYLAR	0.0056MF	5%	50V
C357	1-136-155-00	FILM	0.015MF	5%	50V
C358	1-130-472-00	MYLAR	0.0012MF	5%	50V
C359	1-130-479-00	MYLAR	0.0047MF	5%	50V
C360	1-130-467-00	MYLAR	470PF	5%	50V
C361	1-162-215-31	CERAMIC	47PF	5%	50V
C362	1-162-282-31	CERAMIC	100PF	10%	50V
C364	1-136-165-00	FILM	0.1MF	5%	50V
C365	1-124-499-11	ELECT	1MF	20%	50V
C366	1-136-165-00	FILM	0.1MF	5%	50V
C367	1-123-875-11	ELECT	10MF	20%	50V
C401	1-161-379-00	CERAMIC	0.01MF	30%	16V
C402	1-126-233-11	ELECT	22MF	20%	50V
C403	1-126-233-11	ELECT	22MF	20%	50V
C404	1-161-374-11	CERAMIC	0.0015MF	20%	16V
C405	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C406	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C407	1-124-257-00	ELECT	2.2MF	20%	50V
C408	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C409	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C410	1-124-257-00	ELECT	2.2MF	20%	50V
C411	1-161-379-00	CERAMIC	0.01MF	30%	16V
C412	1-161-379-00	CERAMIC	0.01MF	30%	16V
C413	1-124-257-00	ELECT	2.2MF	20%	50V
C414	1-124-465-00	ELECT	0.47MF	20%	50V
C415	1-124-257-00	ELECT	2.2MF	20%	50V
C416	1-161-327-00	CERAMIC	0.0033MF	20%	16V
C417	1-124-257-00	ELECT	2.2MF	20%	50V
C418	1-124-257-00	ELECT	2.2MF	20%	50V
C419	1-161-379-00	CERAMIC	0.01MF	30%	16V
C420	1-162-282-31	CERAMIC	100PF	10%	50V
C421	1-123-875-11	ELECT	10MF	20%	50V
C422	1-124-477-11	ELECT	47MF	20%	16V
C425	1-161-379-00	CERAMIC	0.01MF	30%	16V
C426	1-124-477-11	ELECT	47MF	20%	16V
C427	1-123-875-11	ELECT	10MF	20%	50V
C428	1-123-875-11	ELECT	10MF	20%	50V
C429	1-124-925-11	ELECT	2.2MF	20%	50V
C801	1-124-499-11	ELECT	1MF	20%	50V
C802	1-162-288-31	CERAMIC	330PF	10%	50V
C803	1-162-282-31	CERAMIC	100PF	10%	50V
C804	1-124-122-11	ELECT	100MF	20%	35V
C805	1-124-910-11	ELECT	47MF	20%	50V
C806	1-136-161-00	(US,Canadian,E,Saudi Arabia) ...FILM	0.047MF	5%	50V
C806	1-136-165-00	(AEP,UK,WG,IT)...FILM	0.1MF	5%	50V
C807	1-136-165-00	(AEP,UK,WG,IT)...FILM	0.1MF	5%	50V
C821	1-124-122-11	ELECT	100MF	20%	50V
C823	1-123-875-11	ELECT	10MF	20%	50V
C824	1-126-176-11	ELECT	220MF	20%	10V
C825	1-126-233-11	ELECT	22MF	20%	25V
C826	1-126-176-11	ELECT	220MF	20%	10V
C827	1-161-379-00	CERAMIC	0.01MF	30%	16V
C828	1-161-494-00	CERAMIC	0.022MF		25V
C829	1-124-477-11	ELECT	47MF	20%	16V
C830	1-124-927-11	ELECT	4.7MF	20%	50V
C831	1-124-463-00	ELECT	0.1MF	20%	50V
C832	1-123-875-11	ELECT	10MF	20%	50V
C833A	1-124-927-11	ELECT	4.7MF	20%	50V
C833B	1-123-875-11	ELECT	10MF	20%	50V
C834	1-161-379-00	CERAMIC	0.01MF	30%	16V
C835	1-123-875-11	ELECT	10MF	20%	50V
C851	1-124-499-11	ELECT	1MF	20%	50V
C852	1-162-288-31	CERAMIC	330PF	10%	50V
C853	1-162-282-31	CERAMIC	100PF	10%	50V
C854	1-124-122-11	ELECT	100MF	20%	35V
C855	1-124-910-11	ELECT	47MF	20%	50V
C856	1-136-161-00	(US,Canadian,E,Saudi Arabia) ...FILM	0.047MF	5%	50V
C856	1-136-165-00	(AEP,UK,WG,IT)...FILM	0.1MF	5%	50V
C857	1-136-165-00	(AEP,UK,WG,IT)...FILM	0.1MF	5%	50V
C901	1-136-171-00	FILM	0.33MF	5%	50V
C902	1-136-171-00	FILM	0.33MF	5%	50V
C903	1-126-224-11	ELECT	4700MF	20%	42V
C904	1-126-224-11	ELECT	4700MF	20%	42V
C905	⚠1-161-742-00	CERAMIC	0.0022MF	20%	400V
C906	1-136-165-00	FILM	0.1MF	5%	50V
C907	1-124-912-11	ELECT	330MF	20%	50V
C908	1-124-912-11	ELECT	330MF	20%	50V
C909	1-124-479-11	ELECT	330MF	20%	25V
C910	1-161-379-00	CERAMIC	0.01MF	30%	16V
C911	1-136-165-00	FILM	0.1MF	5%	50V
C912	1-124-910-11	ELECT	47MF	20%	50V
C913	1-124-477-11	ELECT	47MF	20%	16V
C914	1-136-165-00	(WG,IT)...FILM	0.1MF	5%	50V
C915	1-136-165-00	(WG,IT)...FILM	0.1MF	5%	50V
CN001	1-564-610-41	CONNECTOR, BOARD TO BOARD 10P			
CN002	1-506-979-31	CONNECTOR, BOARD TO BOARD 13P			
CNJ001*	1-566-858-11	SOCKET, CONNECTOR 11P (FOR ST)			
CNJ003*	1-565-291-11	SOCKET, CONNECTOR 13P (FOR TC)			
CNJ005*	1-566-925-11	SOCKET, CONNECTOR 8P			
CNJ006*	1-566-926-11	SOCKET, CONNECTOR 10P			
CNJ008*	1-566-926-11	SOCKET, CONNECTOR 10P			

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
CNP002	1-564-980-11	PIN, CONNECTOR 4P (FOR CD)
CNP005	*1-566-923-11	PLUG, CONNECTOR 8P
CNP006	*1-566-924-11	PLUG, CONNECTOR 10P
CNP008	*1-566-924-11	PLUG, CONNECTOR 10P
CNP601	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P
CNP602	*1-564-521-11	PLUG, CONNECTOR 6P
CNP801	*1-564-338-61	PIN, CONNECTOR 4P
CNP802	*1-564-339-00	PIN, CONNECTOR 5P
CNP803	*1-564-338-00	PIN, CONNECTOR 4P
CNP805	*1-564-496-11	PIN, CONNECTOR 3P
CNP901	*1-564-104-00	PIN, CONNECTOR 3P
CNP902	*1-564-915-11	(E,Saudi Arabia)...PIN, CONNECTOR 7P
CP401	1-233-026-11	COMPOSITION CIRCUIT BLOCK (100KX12)
CP402	1-233-140-11	COMPOSITION CIRCUIT BLOCK (100KX8)
D101	8-719-000-26	DIODE US1060M
D201	8-719-200-77	DIODE 10E2N
D202	8-719-200-77	DIODE 10E2N
D203	8-719-200-77	DIODE 10E2N
D204	8-719-200-77	DIODE 10E2N
D401	8-719-000-26	DIODE US1060M
D402	8-719-933-68	DIODE HZS11B-3L
D403	8-719-303-13	DIODE SEL1210W
D404	8-719-303-13	DIODE SEL1210W
D405	8-719-303-13	DIODE SEL1210W
D406	8-719-303-13	DIODE SEL1210W
D407	8-719-303-13	DIODE SEL1210W
D408	8-719-303-59	DIODE SEL1910W
D409	8-719-303-59	DIODE SEL1910W
D410	8-719-010-29	DIODE UZ-4.3BSB
D411	8-719-000-26	DIODE US1060M
D412	8-719-000-26	DIODE US1060M
D413	8-719-000-26	DIODE US1060M
D414	8-719-000-26	DIODE US1060M
D415	8-719-000-26	DIODE US1060M
D416	8-719-000-26	DIODE US1060M
D417	8-719-000-26	DIODE US1060M
D418	8-719-000-26	DIODE US1060M
D419	8-719-000-26	DIODE US1060M
D420	8-719-000-26	DIODE US1060M
D421	8-719-000-26	DIODE US1060M
D422	8-719-303-33	DIODE SEL4214W
D423	8-719-000-90	DIODE UZL-7M3
D801	8-719-000-26	DIODE US1060M
D821	8-719-000-26	DIODE US1060M
D822	8-719-000-26	DIODE US1060M
D851	8-719-000-26	DIODE US1060M
D901	8-719-302-38	(US,Canadian,E,Saudi Arabia,818M:AEP, UK,WG,IT)...DIODE RBV-602-01
D901	8-719-302-36	(717M:AEP,UK,WG)...DIODE RBV-402-01
D902	8-719-000-26	DIODE US1060M
D903	8-719-000-26	DIODE US1060M
D904	8-719-200-77	DIODE 10E2N
D905	8-719-200-77	DIODE 10E2N
D906	8-719-200-77	DIODE 10E2N
D907	8-719-000-26	DIODE US1060M
D911	8-719-014-23	DIODE UZP-3.3BB

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
F201	⚠.1-532-783-21	(US,Canadian)...FUSE, MICRO (SECONDARY)5A
F202	⚠.1-532-783-21	(US,Canadian)...FUSE, MICRO (SECONDARY)5A
F203	⚠.1-532-780-21	(818M:US)...FUSE, MICRO(SECONDARY)5A
F901	⚠.1-532-285-00	(E,Saudi Arabia,818M:AEP,UK,WG,IT) ...FUSE, TIME-LAG (1.25A)
F901	⚠.1-532-078-00	(717M:AEP,UK,WG)...FUSE, TIME-LAG (1A)
F901	⚠.1-532-742-11	(717M:US,Canadian) ...FUSE, GLASS TUBE (1.6A)
F901	⚠.1-532-743-11	(818M:US)......FUSE, GLASS TUBE (2A)
F902	⚠.1-532-285-00	(E,Saudi Arabia) ...FUSE, TIME-LAG (1.25A)
FL401	1-519-516-11	INDICATOR TUBE, FLUORESCENT
IC001	8-759-600-02	(AEP,UK,WG,IT,E,Saudi Arabia) ...IC M5218L
IC002	8-759-240-52	IC TC4052BP
IC003	8-759-600-02	IC M5218L
IC101	8-759-632-01	IC M50725-116SP
IC201	8-759-604-33	IC M5F7812
IC202	8-759-604-30	IC M5F7808
IC203	8-759-604-30	IC M5F7908
IC301	8-759-602-04	IC M5226P
IC302	8-759-601-43	IC M4066BP
IC303	8-759-600-02	IC M5218L
IC351	8-759-602-04	IC M5226P
IC401	8-759-820-07	IC LC7566
IC402	8-759-600-02	IC M5218L
IC403	8-759-600-02	IC M5218L
IC404	8-759-820-62	IC LB1639
IC801	8-749-900-96	(717M)..........IC STK4142MK2
IC801	8-749-941-52	(717,818,818M)...IC STK4152II
IC802	8-759-111-68	IC UPC1237HA
IC901	8-759-604-84	IC M5F7806
IC902	8-759-604-93	IC M5F7924
⚠ICP201	.1-532-846-21	(AEP,UK,WG,IT,E,Saudi Arabia)..LINK, IC
⚠ICP202	.1-532-846-21	(AEP,UK,WG,IT,E,Saudi Arabia)..LINK, IC
J001	1-565-258-11	JACK, PIN 4P (CD/PHONO or AUX)
J901	1-562-981-21	JACK (MIX MIC)
J902	1-562-837-11	JACK (HEADPHONES)
L101	1-410-521-11	INDUCTOR 100UH
L102	1-410-521-11	INDUCTOR 100UH
L401	1-410-521-11	INDUCTOR 100UH
L801	*1-420-872-00	COIL, AIR CORE
L851	*1-420-872-00	COIL, AIR CORE
PT901	⚠.1-449-561-11	(E,Saudi Arabia)....TRANSFORMER, POWER
PT901	⚠.1-449-562-11	(717M:UK)...........TRANSFORMER, POWER
PT901	⚠.1-449-563-11	(717M:AEP,UK).......TRANSFORMER, POWER
PT901	⚠.1-449-564-11	(717M:US,Canadian)..TRANSFORMER, POWER
PT901	⚠.1-449-568-11	(818M:UK)...........TRANSFORMER, POWER
PT901	⚠.1-449-569-11	(818M:AEP,WG,IT)....TRANSFORMER, POWER
PT901	⚠.1-449-570-11	(818M:US)...........TRANSFORMER, POWER
PT902	⚠.1-449-565-11	(E,Saudi Arabia)...TRANSFORMER, POWER
PT902	⚠.1-449-566-11	(AEP,UK,WG,IT).....TRANSFORMER, POWER
PT902	⚠.1-449-567-11	(US,Canadian)......TRANSFORMER, POWER
Q101	8-729-119-78	TRANSISTOR 2SC2785
Q102	8-729-806-30	TRANSISTOR 2SC4048
Q301	8-729-119-78	TRANSISTOR 2SC2785

Ref.No.	Part No.	Description
Q302	8-729-119-78	TRANSISTOR 2SC2785
Q303	8-729-119-78	TRANSISTOR 2SC2785
Q351	8-729-119-78	TRANSISTOR 2SC2785
Q353	8-729-119-78	TRANSISTOR 2SC2785
Q401	8-729-900-80	TRANSISTOR DTC114ES
Q402	8-729-806-34	TRANSISTOR 2SC3400
Q403	8-729-900-80	TRANSISTOR DTC114ES
Q404	8-729-119-78	TRANSISTOR 2SC2785
Q406	8-729-800-93	TRANSISTOR 2SD1387
Q801	8-729-108-05	TRANSISTOR 2SC1841-PA
Q802	8-729-173-38	TRANSISTOR 2SA733
Q901	8-729-801-93	TRANSISTOR 2SD1387
R001	1-249-417-11	CARBON 1K 5% 1/4W
R002	1-249-423-11	CARBON 3.3K 5% 1/4W
R003	1-249-429-11	CARBON 10K 5% 1/4W
R004	1-249-417-11	CARBON 1K 5% 1/4W
R005	1-249-417-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 1K 5% 1/4W
R006	1-249-438-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 56K 5% 1/4W
R007	1-249-417-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 1K 5% 1/4W
R008	1-247-897-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 560K 5% 1/4W
R009	1-249-437-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 47K 5% 1/4W
R010	1-249-430-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 12K 5% 1/4W
R010	1-249-428-11	(US,Canadian)...CARBON 8.2K 5% 1/4W
R011	1-249-429-11	CARBON 10K 5% 1/4W
R012	1-249-426-11	CARBON 5.6K 5% 1/4W
R013	1-249-429-11	CARBON 10K 5% 1/4W
R014	1-249-426-11	CARBON 5.6K 5% 1/4W
R015	1-249-429-11	CARBON 10K 5% 1/4W
R016	1-249-428-11	CARBON 8.2K 5% 1/4W
R017	1-249-423-11	CARBON 3.3K 5% 1/4W
R018	1-249-435-11	CARBON 33K 5% 1/4W
R019	1-249-413-11	CARBON 470 5% 1/4W
R020	1-249-405-11	CARBON 100 5% 1/4W
R051	1-249-417-11	CARBON 1K 5% 1/4W
R052	1-249-423-11	CARBON 3.3K 5% 1/4W
R053	1-249-429-11	CARBON 10K 5% 1/4W
R054	1-249-417-11	CARBON 1K 5% 1/4W
R055	1-249-417-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 1K 5% 1/4W
R056	1-249-438-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 56K 1% 1/4W
R057	1-249-417-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 1K 5% 1/4W
R058	1-247-897-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 560K 5% 1/4W
R059	1-249-437-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 47K 5% 1/4W
R060	1-249-430-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON 12K 5% 1/4W
R060	1-249-428-11	(US,Canadian)..CARBON 8.2K 5% 1/4W
R061	1-249-429-11	CARBON 10K 5% 1/4W
R062	1-249-426-11	CARBON 5.6K 5% 1/4W
R063	1-249-429-11	CARBON 10K 5% 1/4W
R064	1-249-426-11	CARBON 5.6K 5% 1/4W
R065	1-249-429-11	CARBON 10K 5% 1/4W
R066	1-249-428-11	CARBON 8.2K 5% 1/4W

Ref.No.	Part No.	Description
R067	1-249-423-11	CARBON 3.3K 5% 1/4W
R068	1-249-435-11	CARBON 33K 5% 1/4W
R069	1-249-413-11	CARBON 470 5% 1/4W
R070	1-249-405-11	CARBON 100 5% 1/4W
R101	1-249-417-11	CARBON 1K 5% 1/4W
R102	1-249-423-11	CARBON 3.3K 5% 1/4W
R103	1-249-417-11	CARBON 1K 5% 1/4W
R104	1-249-441-11	CARBON 100K 5% 1/4W
R105	1-249-417-11	CARBON 1K 5% 1/4W
R106	1-249-429-11	CARBON 10K 5% 1/4W
R107	1-249-429-11	CARBON 10K 5% 1/4W
R108	1-249-441-11	CARBON 100K 5% 1/4W
R109	1-249-429-11	CARBON 10K 5% 1/4W
R110	1-249-417-11	CARBON 1K 5% 1/4W
R111	1-249-417-11	CARBON 1K 5% 1/4W
R112	1-249-417-11	CARBON 1K 5% 1/4W
R113	1-249-405-11	CARBON 100 5% 1/4W
R114	1-249-405-11	CARBON 100 5% 1/4W
R115	1-249-405-11	CARBON 100 5% 1/4W
R116	1-249-405-11	CARBON 100 5% 1/4W
R117	1-249-405-11	CARBON 100 5% 1/4W
R118	1-249-405-11	CARBON 100 5% 1/4W
R119	1-249-437-11	CARBON 47K 5% 1/4W
R120	1-249-405-11	CARBON 100 5% 1/4W
R121	1-249-417-11	CARBON 1K 5% 1/4W
R122	1-249-405-11	CARBON 100 5% 1/4W
R123	1-249-393-11	CARBON 10 5% 1/4W
R124	1-249-393-11	(US,Canadian)...CARBON 10 5% 1/4W
R125	1-247-903-00	CARBON 1M 5% 1/4W
R126	1-249-421-11	CARBON 2.2K 5% 1/4W
R127	1-249-429-11	CARBON 10K 5% 1/4W
R128	1-249-401-11	CARBON 47 5% 1/4W
R129	1-249-429-11	CARBON 10K 5% 1/4W
R130	⚠.1-217-469-00	(818M:US)...FUSIBLE 1 5% 1W F
R201	⚠.1-217-481-00	FUSIBLE 10 5% 1W F
R202	⚠.1-217-489-00	FUSIBLE 47 5% 1W F
R301	1-249-425-11	CARBON 4.7K 5% 1/4W
R302	1-249-413-11	CARBON 470 5% 1/4W
R303	1-249-441-11	CARBON 100K 5% 1/4W
R304	1-249-437-11	CARBON 47K 5% 1/4W
R305	1-249-432-11	CARBON 18K 5% 1/4W
R306	1-249-431-11	CARBON 15K 5% 1/4W
R307	1-249-429-11	CARBON 10K 5% 1/4W
R308	1-247-891-00	CARBON 330K 5% 1/4W
R309	1-249-421-11	CARBON 2.2K 5% 1/4W
R310	1-249-425-11	CARBON 4.7K 5% 1/4W
R311	1-249-429-11	CARBON 10K 5% 1/4W
R320	1-249-414-11	CARBON 560 5% 1/4W
R321	1-249-429-11	CARBON 10K 5% 1/4W
R322	1-249-415-11	CARBON 680 5% 1/4W
R323	1-249-441-11	CARBON 100K 5% 1/4W
R324	1-249-434-11	CARBON 27K 5% 1/4W
R325	1-249-422-11	CARBON 2.7K 5% 1/4W
R326	1-249-429-11	CARBON 10K 5% 1/4W
R351	1-249-425-11	CARBON 4.7K 5% 1/4W
R352	1-249-413-11	CARBON 470 5% 1/4W
R353	1-249-441-11	CARBON 100K 5% 1/4W

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			
R354	1-249-437-11	CARBON	47K	5%	1/4W
R355	1-249-432-11	CARBON	18K	5%	1/4W
R356	1-249-431-11	CARBON	15K	5%	1/4W
R357	1-249-429-11	CARBON	10K	5%	1/4W
R358	1-247-891-00	CARBON	330K	5%	1/4W
R359	1-249-421-11	CARBON	2.2K	5%	1/4W
R360	1-249-425-11	CARBON	4.7K	5%	1/4W
R401	1-249-425-11	CARBON	4.7K	5%	1/4W
R402	1-249-415-11	CARBON	680	5%	1/4W
R403	1-249-416-11	CARBON	820	5%	1/4W
R404	1-249-413-11	CARBON	470	5%	1/4W
R405	1-249-408-11	CARBON	180	5%	1/4W
R406	1-249-414-11	CARBON	560	5%	1/4W
R407	1-249-429-11	CARBON	10K	5%	1/4W
R408	1-249-413-11	CARBON	470	5%	1/4W
R409	1-249-415-11	(US,Canadian)...CARBON	680	5%	1/4W
R409	1-249-420-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON	1.8K	5%	1/4W
R410	1-249-419-11	(AEP,UK,WG,IT,E,Saudi Arabia) ...CARBON	1.5K	5%	1/4W
R410	1-249-422-11	(US,Canadian)...CARBON	2.7K	5%	1/4W
R411	1-249-421-11	CARBON	2.2K	5%	1/4W
R412	1-249-425-11	CARBON	4.7K	5%	1/4W
R413	1-249-430-11	CARBON	12K	5%	1/4W
R414	1-249-441-11	CARBON	100K	5%	1/4W
R415	1-249-441-11	CARBON	100K	5%	1/4W
R416	1-249-432-11	CARBON	18K	5%	1/4W
R417	1-249-429-11	CARBON	10K	5%	1/4W
R418	1-249-434-11	CARBON	27K	5%	1/4W
R419	1-249-425-11	CARBON	4.7K	5%	1/4W
R420	1-249-436-11	CARBON	39K	5%	1/4W
R421	1-249-441-11	CARBON	100K	5%	1/4W
R422	1-249-441-11	CARBON	100K	5%	1/4W
R423	1-249-432-11	CARBON	18K	5%	1/4W
R424	1-247-883-00	CARBON	150K	5%	1/4W
R425	1-249-441-11	CARBON	100K	5%	1/4W
R426	1-249-440-11	CARBON	82K	5%	1/4W
R427	1-249-431-11	CARBON	15K	5%	1/4W
R428	1-247-881-00	CARBON	120K	5%	1/4W
R429	1-249-441-11	CARBON	100K	5%	1/4W
R430	1-249-426-11	CARBON	5.6K	5%	1/4W
R431	1-249-441-11	CARBON	100K	5%	1/4W
R432	1-249-427-11	CARBON	6.8K	5%	1/4W
R433	1-249-441-11	CARBON	100K	5%	1/4W
R434	1-249-416-11	CARBON	820	5%	1/4W
R435	1-249-425-11	CARBON	4.7K	5%	1/4W
R436	1-249-441-11	CARBON	100K	5%	1/4W
R437	1-247-903-00	CARBON	1M	5%	1/4W
R438	1-249-408-11	CARBON	180	5%	1/4W
R439	1-249-429-11	CARBON	10K	5%	1/4W
R440	1-249-429-11	CARBON	10K	5%	1/4W
R441	1-249-429-11	CARBON	10K	5%	1/4W
R442	1-249-415-11	CARBON	680	5%	1/4W
R443	1-249-422-11	CARBON	2.7K	5%	1/4W
R444	1-249-429-11	CARBON	10K	5%	1/4W
R445	1-249-429-11	CARBON	10K	5%	1/4W
R447	1-249-417-11	CARBON	1K	5%	1/4W

Ref.No.	Part No.	Description				
R448	1-247-885-00	CARBON	180K	5%	1/4W	
R449	1-249-385-11	CARBON	2.2	5%	1/4W	
R450	1-249-405-11	CARBON	100	5%	1/4W	
R451	1-249-441-11	CARBON	100K	5%	1/4W	
R452	1-249-441-11	CARBON	100K	5%	1/4W	
R453	1-249-419-11	CARBON	1.5K	5%	1/4W	
R456	1-249-417-11	CARBON	1K	5%	1/4W	
R457	1-249-417-11	CARBON	1K	5%	1/4W	
R458	1-249-421-11	CARBON	2.2K	5%	1/4W	
R459	1-249-437-11	CARBON	47K	5%	1/4W	
R460	1-249-437-11	CARBON	47K	5%	1/4W	
R801	1-249-417-11	CARBON	1K	5%	1/4W	
R802	1-249-438-11	CARBON	56K	5%	1/4W	
R803	1-249-438-11	CARBON	56K	5%	1/4W	
R804	1-249-414-11	CARBON	560	5%	1/4W	
R805	1-249-438-11	CARBON	56K	5%	1/4W	
R806	1-247-756-11	CARBON	2.2K	5%	1/2W	
R807	1-247-756-11	CARBON	2.2K	5%	1/2W	
R808	1-249-429-11	CARBON	10K	5%	1/4W	
R809	⚠.1-247-727-11	CARBON	10	5%	1/2W	F
R810	1-249-438-11	CARBON	56K	5%	1/4W	
R811	1-217-151-00	METAL PLATE	0.22	10%	2W	
R821	⚠.1-212-881-11	FUSIBLE	100	5%	1/4W	F
R822	1-247-752-11	CARBON	1K	5%	1/2W	
R823	1-247-752-11	CARBON	1K	5%	1/2W	
R824	⚠.1-212-881-11	FUSIBLE	100	5%	1/4W	F
R825	1-249-441-11	CARBON	100K	5%	1/4W	
R826	1-249-429-11	CARBON	10K	5%	1/4W	
R827	1-249-433-11	CARBON	22K	5%	1/4W	
R828	1-249-433-11	CARBON	22K	5%	1/4W	
R829	1-249-433-11	CARBON	22K	5%	1/4W	
R830	⚠.1-247-741-11	(717M)...........CARBON	150	5%	1/2W	F
R830	⚠.1-247-744-11	(717,818,818M)...CARBON	270	5%	1/2W	F
R831	1-249-439-11	CARBON	68K	5%	1/4W	
R832	1-249-430-11	CARBON	12K	5%	1/4W	
R833	1-249-413-11	CARBON	470	5%	1/4W	
R834	1-249-429-11	CARBON	10K	5%	1/4W	
R835	1-249-414-11	CARBON	560	5%	1/4W	
R836	1-249-441-11	CARBON	100K	5%	1/4W	
R837	1-247-903-00	CARBON	1M	5%	1/4W	
R851	1-249-417-11	CARBON	1K	5%	1/4W	
R852	1-249-438-11	CARBON	56K	5%	1/4W	
R853	1-249-438-11	CARBON	56K	5%	1/4W	
R854	1-249-414-11	CARBON	560	5%	1/4W	
R855	1-249-438-11	CARBON	56K	5%	1/4W	
R856	1-247-756-11	CARBON	2.2K	5%	1/2W	
R857	1-247-756-11	CARBON	2.2K	5%	1/2W	
R858	1-249-429-11	CARBON	10K	5%	1/4W	
R859	⚠.1-247-727-11	CARBON	10	5%	1/2W	F
R860	1-249-437-11	CARBON	47K	5%	1/4W	
R861	1-217-151-00	METAL PLATE	0.22	10%	2W	
R862	⚠.1-212-881-11	FUSIBLE	100	5%	1/4W	F
R901	1-249-427-11	(717M)...........CARBON	6.8K	5%	1/4W	
R901	1-249-429-11	(717,818,818M)...CARBON	10K	5%	1/4W	
R902	1-249-425-11	CARBON	4.7K	5%	1/4W	
R904	⚠.1-247-741-11	CARBON	150	5%	1/2W	F
R905	1-249-429-11	CARBON	10K	5%	1/4W	

Note:	**Note:**
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Ref.No.	Part No.	Description
R906	1-249-429-11	CARBON 10K 5% 1/4W
R907	1-249-432-11	CARBON 18K 5% 1/4W
R908	⚠.1-247-750-11	(717M)...........CARBON 680 5% 1/2W F
R908	⚠.1-247-751-11	(717,818,818M)...CARBON 820 5% 1/2W F
R909	⚠.1-247-750-11	(717M)...........CARBON 680 5% 1/2W F
R909	⚠.1-247-751-11	(717,818,818M)...CARBON 820 5% 1/2W F
R910	⚠.1-247-727-11	(WG,IT).....CARBON 10 5% 1/2W F
R911	⚠.1-247-727-11	(WG,IT).....CARBON 10 5% 1/2W F
R912	⚠.1-202-725-00	(US,Canadian)...SOLID 3.3M 10% 1/2W
RV301	1-238-457-11	RES, VAR, CARBON 250K/250K (100Hz)
RV302	1-238-457-11	RES, VAR, CARBON 250K/250K (400Hz)
RV303	1-238-457-11	RES, VAR, CARBON 250K/250K (1kHz)
RV304	1-238-457-11	RES, VAR, CARBON 250K/250K (4kHz)
RV305	1-238-457-11	RES, VAR, CARBON 250K/250K (12kHz)
RV306	1-238-491-11	RES, VAR, CARBON 500K/500K (DBFB LEVEL) (SAT LEVEL)
RV307	1-238-459-11	RES, VAR, CARBON 100K (BALANCE)
RV308	1-238-458-11	RES, VAR, CARBON 50K (MIC LEVEL)
RV309	1-237-884-11	RES, VAR, CARBON 100K/100K (VOLUME)
RY801	1-515-503-00	RELAY
RY901	1-515-516-00	RELAY
S401	1-554-303-21	SWITCH, KEY BOARD (POWER)
S402	1-554-303-21	SWITCH, KEY BOARD (DBFB/SAT)
S403	1-554-303-21	SWITCH, KEY BOARD (PHONO/AUX)
S404	1-554-303-21	SWITCH, KEY BOARD (TUNER)
S405	1-554-303-21	SWITCH, KEY BOARD (CD)
S406	1-554-303-21	SWITCH, KEY BOARD (TAPE)
S407	1-554-303-21	SWITCH, KEY BOARD (EQUALIZATION)
S901	⚠.1-571-437-11	(E,Saudi Arabia)...SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR)
TB901	1-536-705-00	TERMINAL BOARD (SP)(SPEAKER)
X101	1-577-358-21	VIBRATOR, CERAMIC 4MHz

Note:	**Note:**
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TC-717/717M

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
TC-717M

E Model
TC-717

TC-717 is the cassette deck section in FH-717R.

TC-717M is the cassette deck section in MHC-2200/2200CD.

SONY
AUTO REVERSE
AUTOMATIC TAPE SELECTOR
TAPE COUNTER
RESET
EJECT
DIRECTIONAL MODE
DOLBY NR
OFF B C

Photo: TC-717M

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	

Used cassette	
TYPE I (Sony HF-S)	40-13,000 Hz (±3 dB)
TYPE II (Sony UCX)	40-14,000 Hz (±3 dB)

Wow and flutter	0.1% WRMS ± 0.2% (DIN)

Dimensions/Weight

Approx. 225 x 120 x 230 mm ($8\frac{7}{8}$ x $4\frac{3}{4}$ x $9\frac{1}{8}$ inches)	Approx. 1.7kg (3 lb 12 oz) net

* incl. projecting parts and controls

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MICROFILM

Model Name Using Similar Mechanism	TC-R707/R707M
Tape Transport Mechanism Type	TCM-170RB16

MODEL IDENTIFICATION

US, Canadian, AEP, UK, E model

TC-717
TC-717M

SONY® MODEL NO. ▨
STEREO CASSETTE DECK
SERIAL NO.
MADE IN JAPAN

West Germany model

SONY® MODEL NO. TC-717M
STEREO CASSETTE DECK
SYSTEM MHC-2200
SERIAL NO.
MADE IN JAPAN

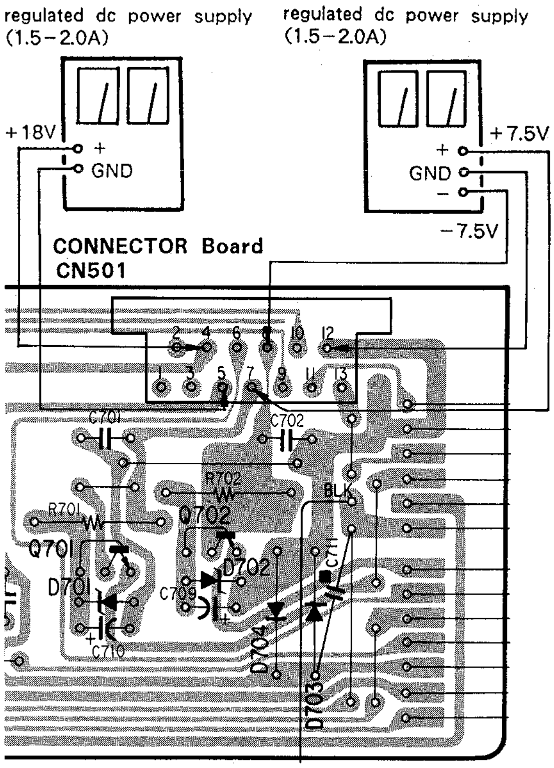
STEREO CASSETTE DECK

SONY®

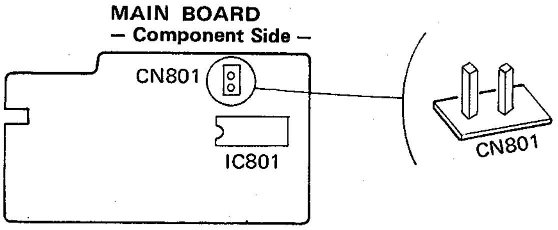
SECTION 1
SERVICING NOTES

REPAIRING PRECAUTION

[To apply B+ voltage]
The power of this unit is fed from amplifier. Because of this, connect the regulated power supply as illustrated below when this unit alone operates.


regulated dc power supply (1.5–2.0A)
regulated dc power supply (1.5–2.0A)
+18V
+
GND
+7.5V
+
GND
−
−7.5V
CONNECTOR Board
CN501
2
4
6
8
10
12
1
3
5
7
9
11
13
C701
C702
R702
R701
Q701
Q702
D701
D702
C709
C710
C711
D704
D703
BLK

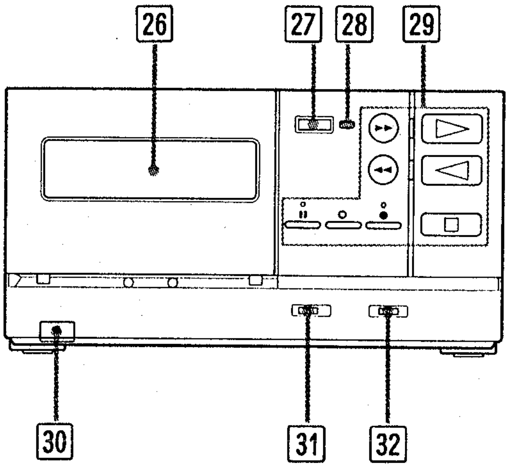
SERVICE MODE


MAIN BOARD
– Component Side –
CN801
IC801
CN801

When short-circuit CN801 on Main Board, the recording signal can be monitored from LINE OUT terminal on recording.

SECTION 2
GENERAL

PARTS IDENTIFICATION


26
27
28
29
30
31
32

26 Cassette holder
27 TAPE COUNTER
28 RESET (counter reset) button
29 Tape operation buttons
  ◀◀ ▶▶:Fast winding
  ▷:Forward play
  ◁:Reverse play
  □:Stop
  ❚❚:Pause
  ○:Record muting
  ●: Record
30 ⏏ EJECT button
31 DIRECTION MODE selector
32 DOLBY NR switch

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belts
capstan	idler

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the perts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Swich position

   DOLBY NR : OFF

   DIRECTION MODE : ⇄

Torque Measurement

Torque	Torque Meter	Meter Reading
FWD	CQ-102C	27 to 75g · cm (0.378 to 1.05 oz · inch)
FWD Back tension	CQ-102C	1 to 10g · cm (0.014 to 0.14 oz · inch)
REV	CQ-102RC	27 to 75g · cm (0.378 to 1.05 oz · inch)
REV Back Tension	CQ-102RC	1 to 10g · cm (0.014 to 0.14 oz · inch)
FF, REW	CQ-102B	95 to 165g · cm (1.33 to 2.31 oz · inch)

3-2. ELECTRICAL ADJUSTMENTS

Note :The adjustment should be performed in the order given in the service manual.
The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.

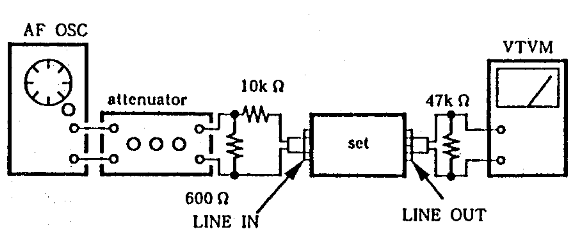
  DOLBY NR switch : OFF

  DIRECTION MODE switch : ⇄

- Standard Record :

  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

–Record Mode–


AF OSC
attenuator
10k Ω
600 Ω
LINE IN
set
LINE OUT
47k Ω
VTVM

Standard Input Level

	LINE IN
source impedance	10k Ω
input level	0.25V (–10dB)

Standard Output Level

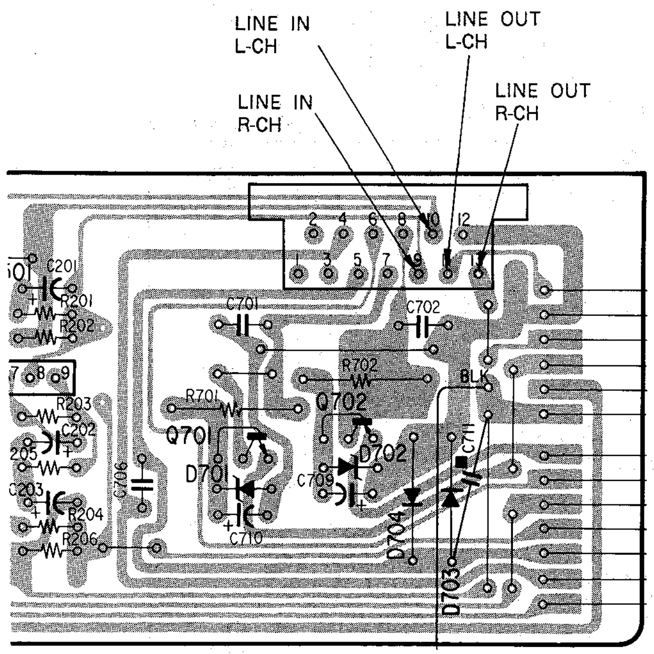
	LINE OUT
load impedance	47k Ω
output level	0.44V (–5dB)

- Test tape

Type	Signal	Used for
P-4-A100	10kHz, –10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB LEVEL Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Location of LINE IN/OUT

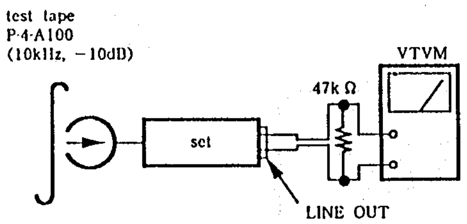
CONNECTOR Board CN501


LINE IN
L-CH
LINE OUT
L-CH
LINE IN
R-CH
LINE OUT
R-CH
2
4
6
8
10
12
1
3
5
7
9
11
C201
R201
R202
R203
C202
C203
R204
R206
C706
C701
R701
Q701
D701
C702
R702
Q702
D702
BLK
C705
C710
C711
D704
D703

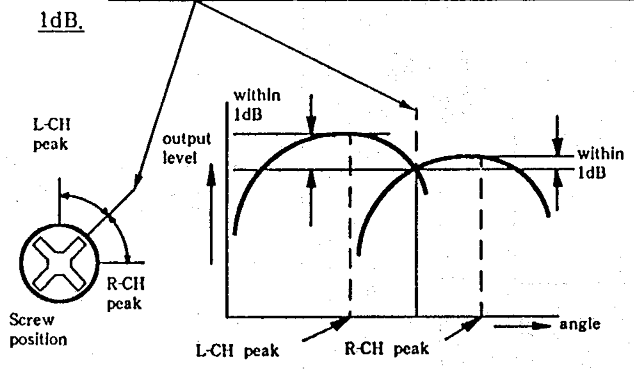
Record/Playback Head Azimuth Adjustment

Procedure :

1. Mode : FWD playback

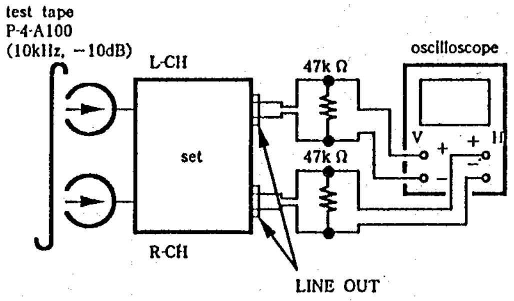

test tape
P-4-A100
(10kHz, –10dB)
set
47k Ω
VTVM
LINE OUT

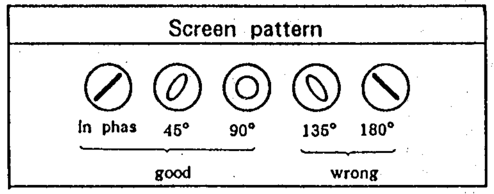
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Phase Check

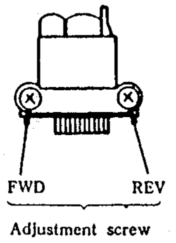
   Mode : playback

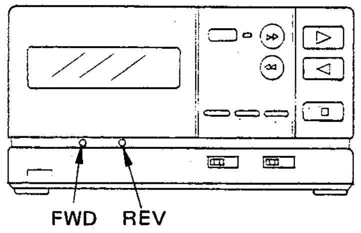

test tape
P-4-A100
(10kHz, –10dB)
L-CH
R-CH
set
47k Ω
47k Ω
oscilloscope
V
H
LINE OUT


Screen pattern
In phas
45°
90°
135°
180°
good
wrong

4. Set in the REV mode and repect the step 1-3.
5. After the adjustment, lock the screws with locking compound.

Adjustment Location : Record/Playback head (Adjustable without disassembly.)

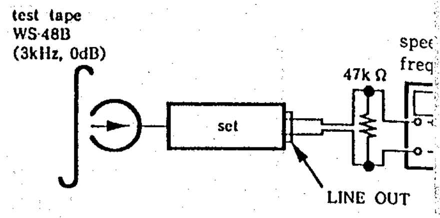

FWD
REV
Adjustment screw



Tape Speed Adjustment

Procedure :

Mode : FWD playback


test tape
WS-48B
(3kHz, 0dB)
set
47k Ω
LINE OUT
spee
freq

Specifications :

SPEED CHECKER	FREQUEN
1 to 0.3%	2,970

Adjustment with the switch fixed variable
motor so that the frequency difference betw
and the end of the tape should be within
Frequency difference between the beginn
of the tape should be within.

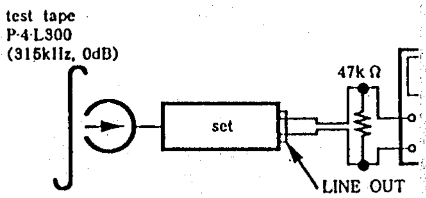
Adjustment Location :

:motor (M901) rear side

Playback Level Adjustment

Procedure :

Mode : playback


test tape
P-4-L300
(315kHz, 0dB)
set
47k Ω
LINE OUT

Adjust RV41 (L-CH), RV61 (R-CH) so th
VTVM meets the specification below.

Specification :

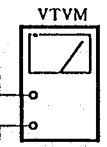
LINE OUT level : –10±0.5dB (0.23 t

Level difference between channels :

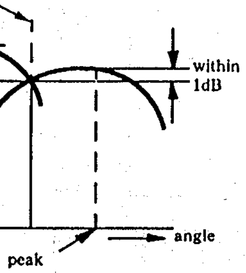
Check that the LINE OUT level does not c
mode while changing the mode from playb
times.

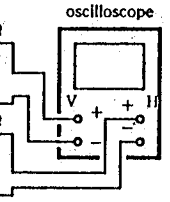
Adjustment Location : MD (B) board

n Adjustment

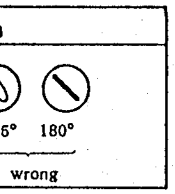


)UT
r the maximum output
tch, turn the adjustment
ls match together within


within
1dB
angle
peak

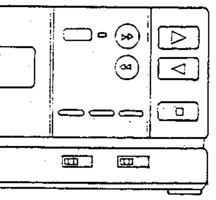

oscilloscope
V
+
+
H
–

)UT



ect the step 1-3.
e screws with locking

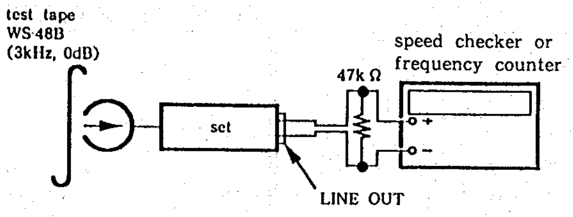
back head
without disassembly.)



EV

Tape Speed Adjustment

Procedure :
Mode : FWD playback


test tape
WS-48B
(3kHz, 0dB)
set
47k Ω
speed checker or
frequency counter
+
–
LINE OUT

Specifications :

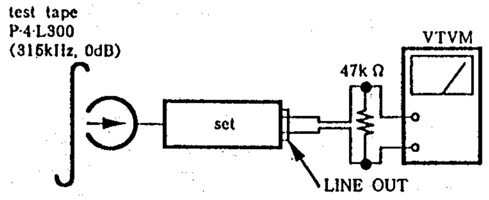
SPEED CHECKER	FREQUENCY COUNTER
1 to 0.3%	2,970 to 2,990Hz

Adjustment with the switch fixed variable resistor builtin the motor so that the frequency difference between the beginning and the end of the tape should be within 1.5% (45Hz).
Frequency difference between the beginning and the end of the tape should be within.

Adjustment Location :
: motor (M901) rear side

Playback Level Adjustment

Procedure :
Mode : playback


test tape
P-4-L300
(315kHz, 0dB)
set
47k Ω
VTVM
LINE OUT

Adjust RV41 (L-CH), RV61 (R-CH) so that the reading on VTVM meets the specification below.

Specification :
LINE OUT level : −10±0.5dB (0.23 to 0.26V)
Level difference between channels : less than 0.5dB

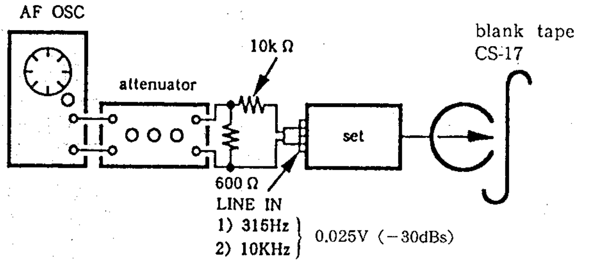
Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD (B) board

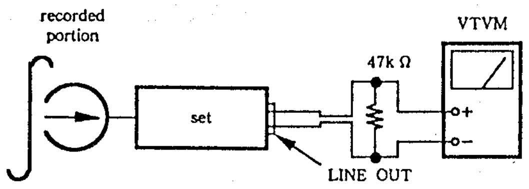
Record Bias Adjustment

Setting :
REC LEVEL control : standard re-ord (See page 3.)

Procedure :
1. Mode : record


AF OSC
attenuator
10k Ω
600 Ω
LINE IN
1) 315Hz
2) 10KHz
0.025V (−30dBs)
set
blank tape
CS-17

2. Mode : playback


recorded
portion
set
47k Ω
VTVM
+
–
LINE OUT

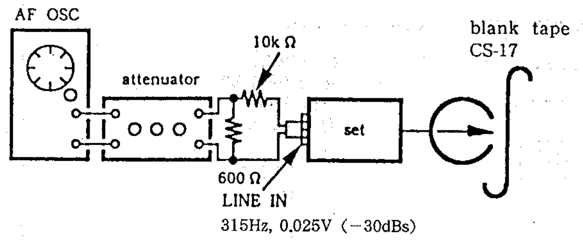
Confirm that the 10kHz playback output is 0±0.5dB ralative to the 315Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.

Adjustment Location : MD (B) board

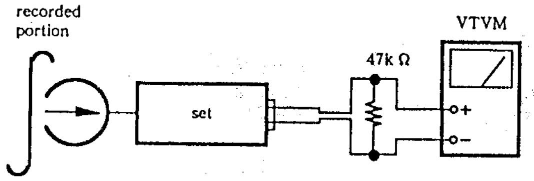
Record Level Adjustment

Setting :
REC LEVEL control : standard record (See page 3.)

Procedure :
1. Mode : record


AF OSC
attenuator
10k Ω
600 Ω
LINE IN
315Hz, 0.025V (−30dBs)
set
blank tape
CS-17

2. Mode : playback


recorded
portion
set
47k Ω
VTVM
+
–

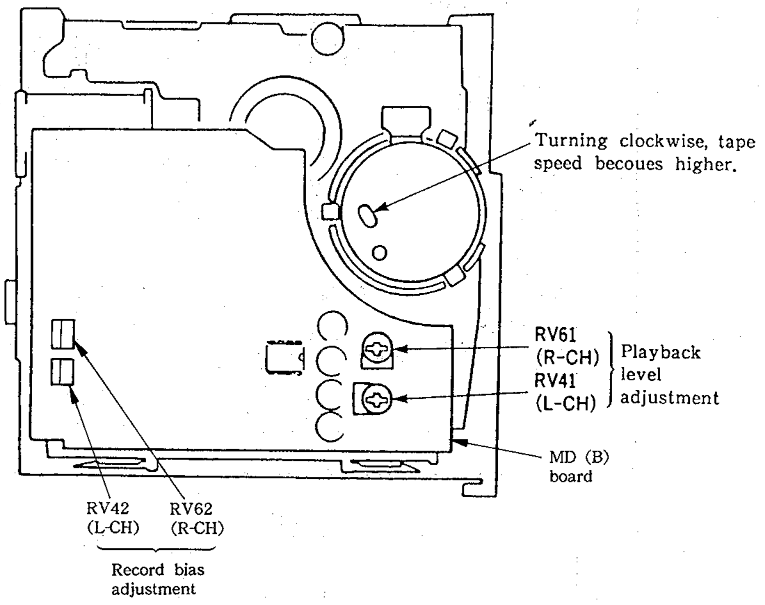
3. Play back the signal recorded in step 1.
Confirm that the signal level is within the specification below. If necessary, adjust RV111 (L-CH), RV211 (R-CH) and repeat the step 1 to 3.

Specification : LINE OUT level: −30dB±0.5dBs (0.023 to 0.026V)

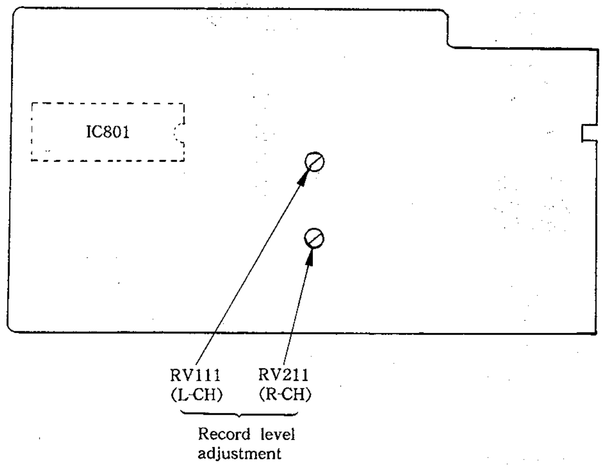
Adjustment Location : main board

ADJUSTING PARTS LOCATION DIAGRAM

• MD (B) Board —Component Side—


Turning clockwise, tape speed becoues higher.
RV61
(R-CH)
RV41
(L-CH)
Playback level adjustment
MD (B) board
RV42
(L-CH)
RV62
(R-CH)
Record bias adjustment

• Main Board —Conductor Side—


IC801
RV111
(L-CH)
RV211
(R-CH)
Record level adjustment

SECTION 4
DIAGRAMS

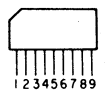
4-1. PRINTED WIRING BOARDS

Note:

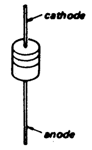
- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.

• Semiconductor Lead Layouts

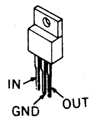
BA3308



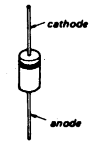
HZS7B3L
RD3.9ES-B2
UZL7H2
1SS202-1


cathode
anode

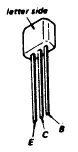
M5F7805
M5F7812



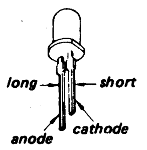
US1060M
1SS132
10E2N


cathode
anode

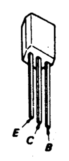
BN1A4M
BN1L4M
2SC2785


letter side
E C B

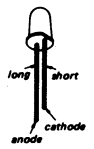
GL-5HY41


long
short
anode
cathode

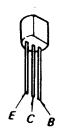
DTA124ES
2SC3901



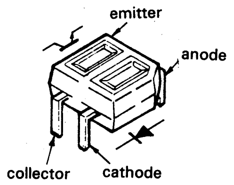
SEL1210S
SEL1410E

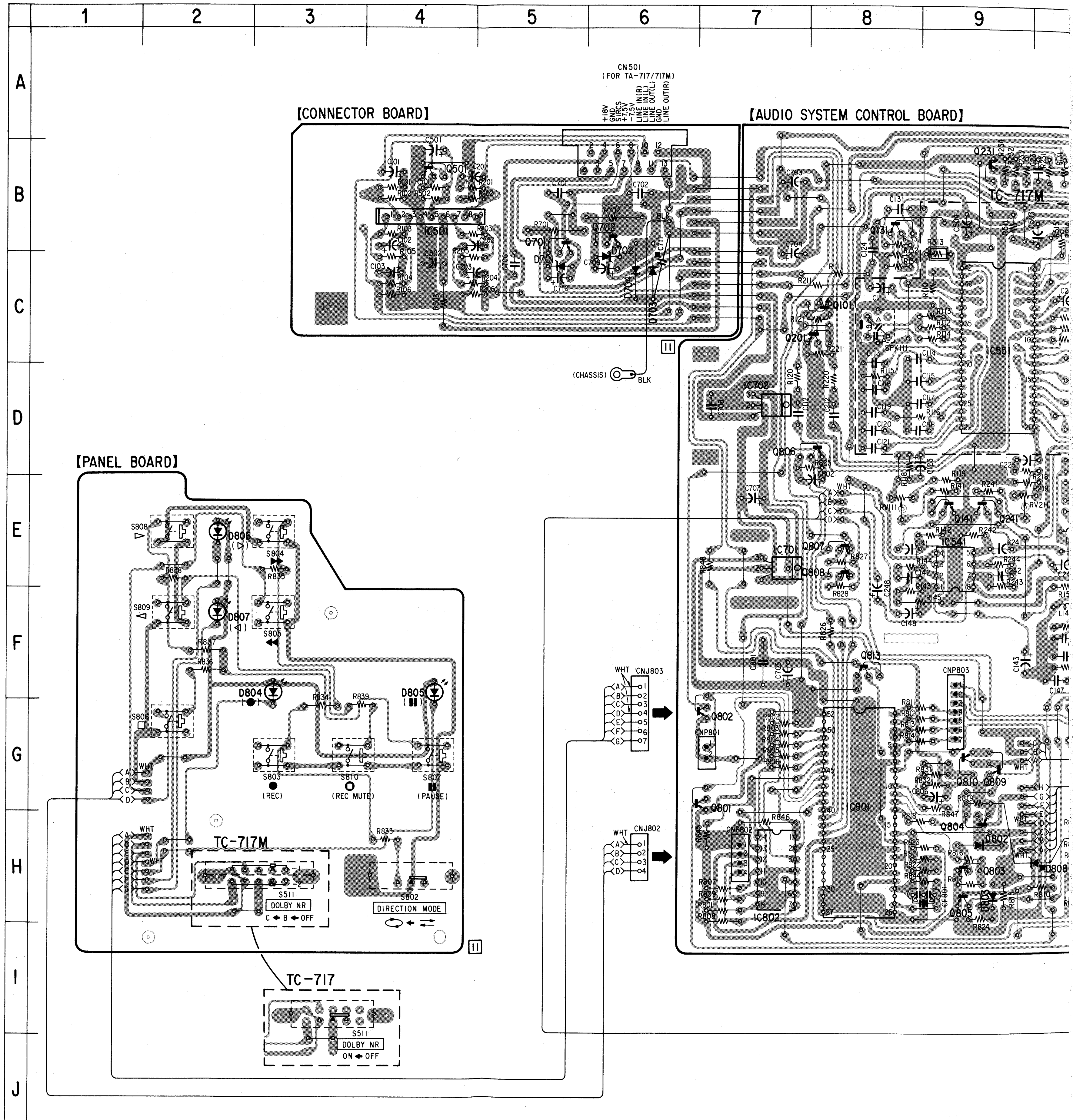

long
short
cathode
anode

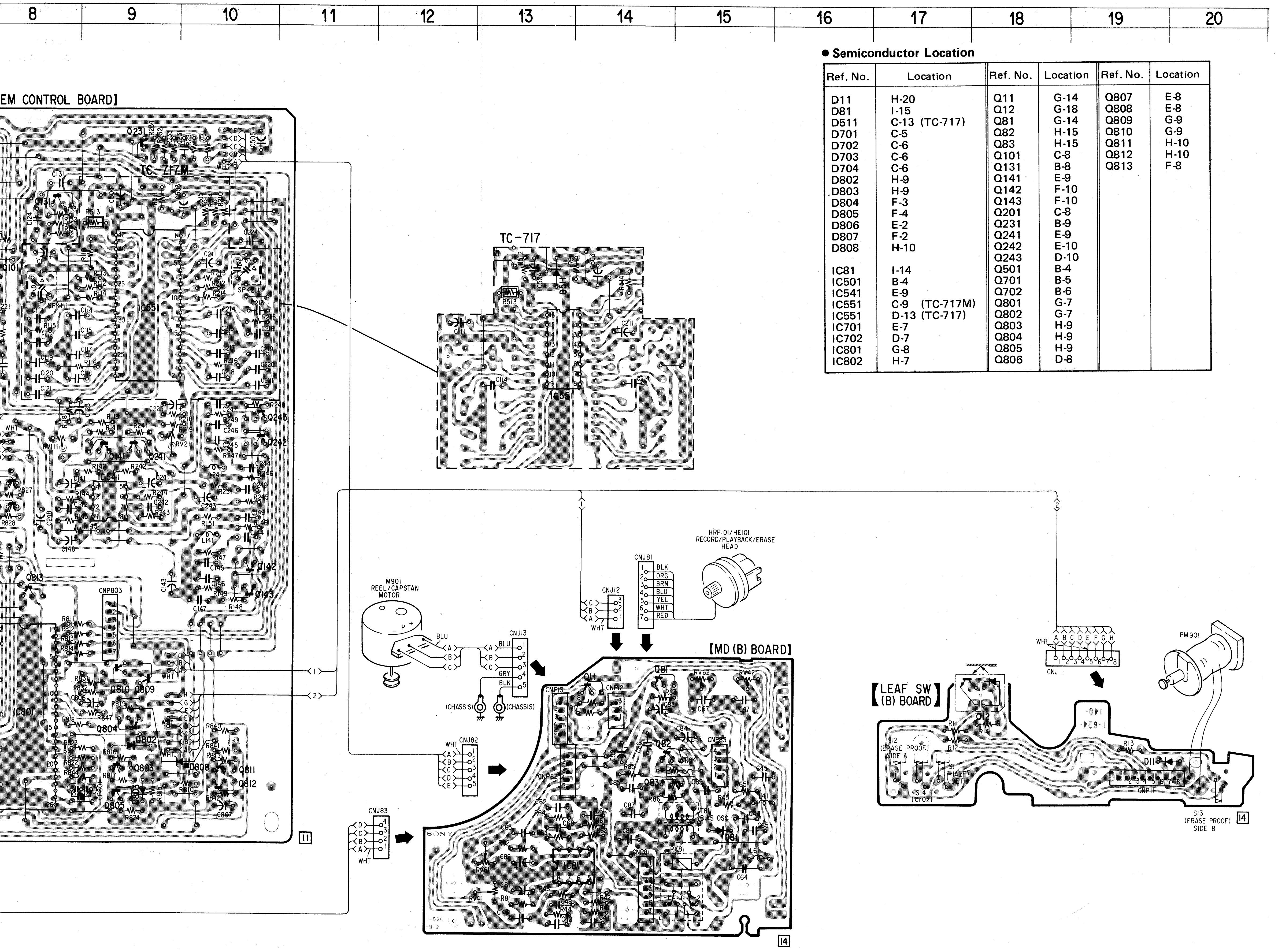
2SA733
2SB1013
2SD1387



GP2S09-C


emitter
anode
collector
cathode

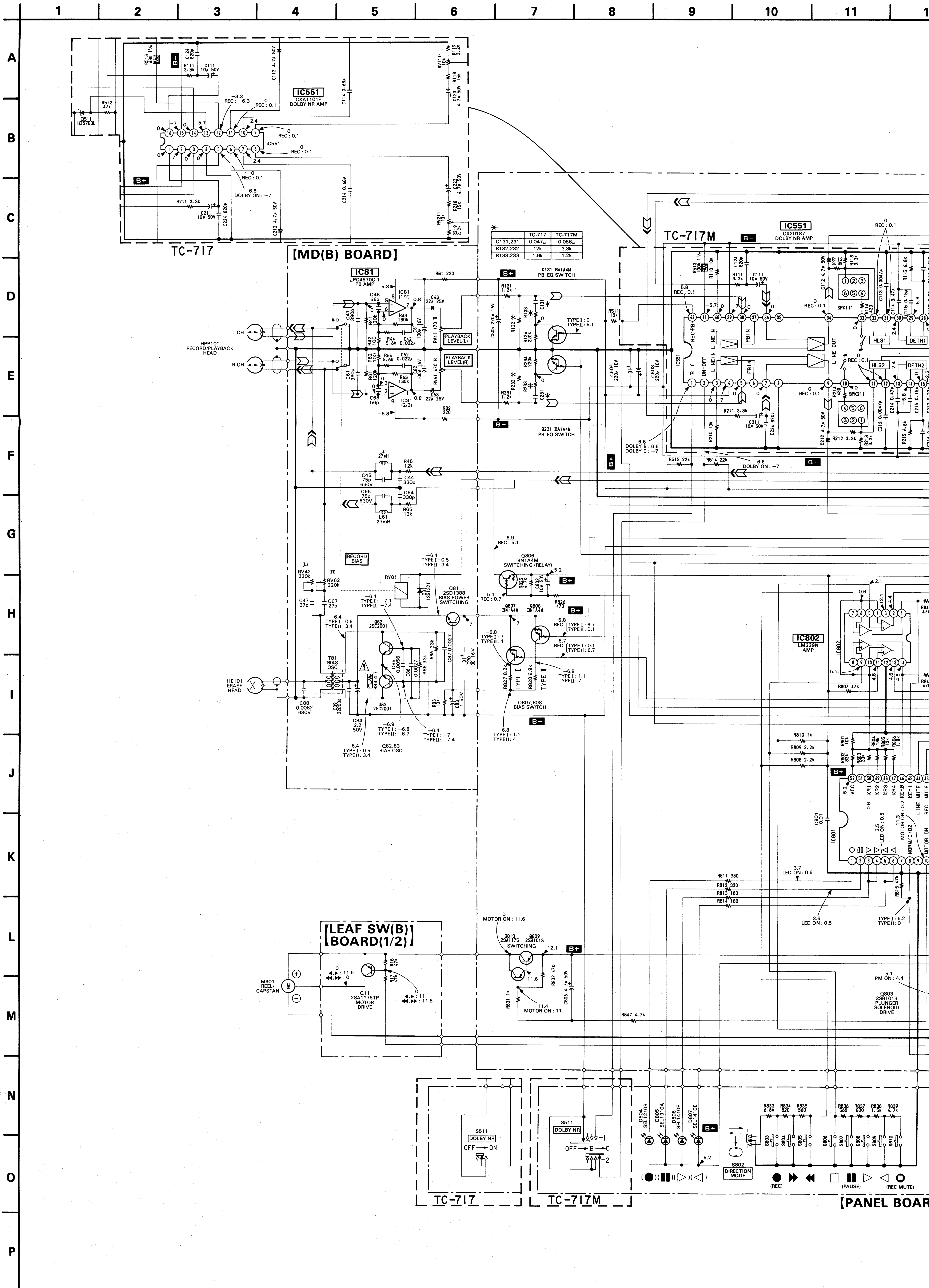

1 2 3 4 5 6 7 8 9
A B C D E F G H I J
CN501
(FOR TA-717/717M)
+18V
GND
SYSCS
+7.5V
-7.5V
LINE IN(R)
LINE IN(L)
LINE OUT(L)
GND
LINE OUT(R)
[CONNECTOR BOARD]
[AUDIO SYSTEM CONTROL BOARD]
[PANEL BOARD]
IC501
Q501
Q701
Q702
D701
D702
D703
D704
TC-717M
IC551
IC702
IC701
IC541
IC801
IC802
Q101
Q131
Q141
Q201
Q231
Q241
Q801
Q802
Q803
Q804
Q805
Q806
Q807
Q808
Q809
Q810
Q813
D802
D803
D808
(CHASSIS)
BLK
WHT
CNJ803
CNJ802
CNP801
CNP802
CNP803
S808 ▷
S809 ◁
S804
S805
S806 □
S803 ● (REC)
S810 O (REC MUTE)
S807 ❚❚ (PAUSE)
D806 (▷)
D807 (◁)
D804 (●)
D805 (❚❚)
TC-717M
S511
DOLBY NR
C ◂ B ◂ OFF
S802
DIRECTION MODE
TC-717
S511
DOLBY NR
ON ◂ OFF
II

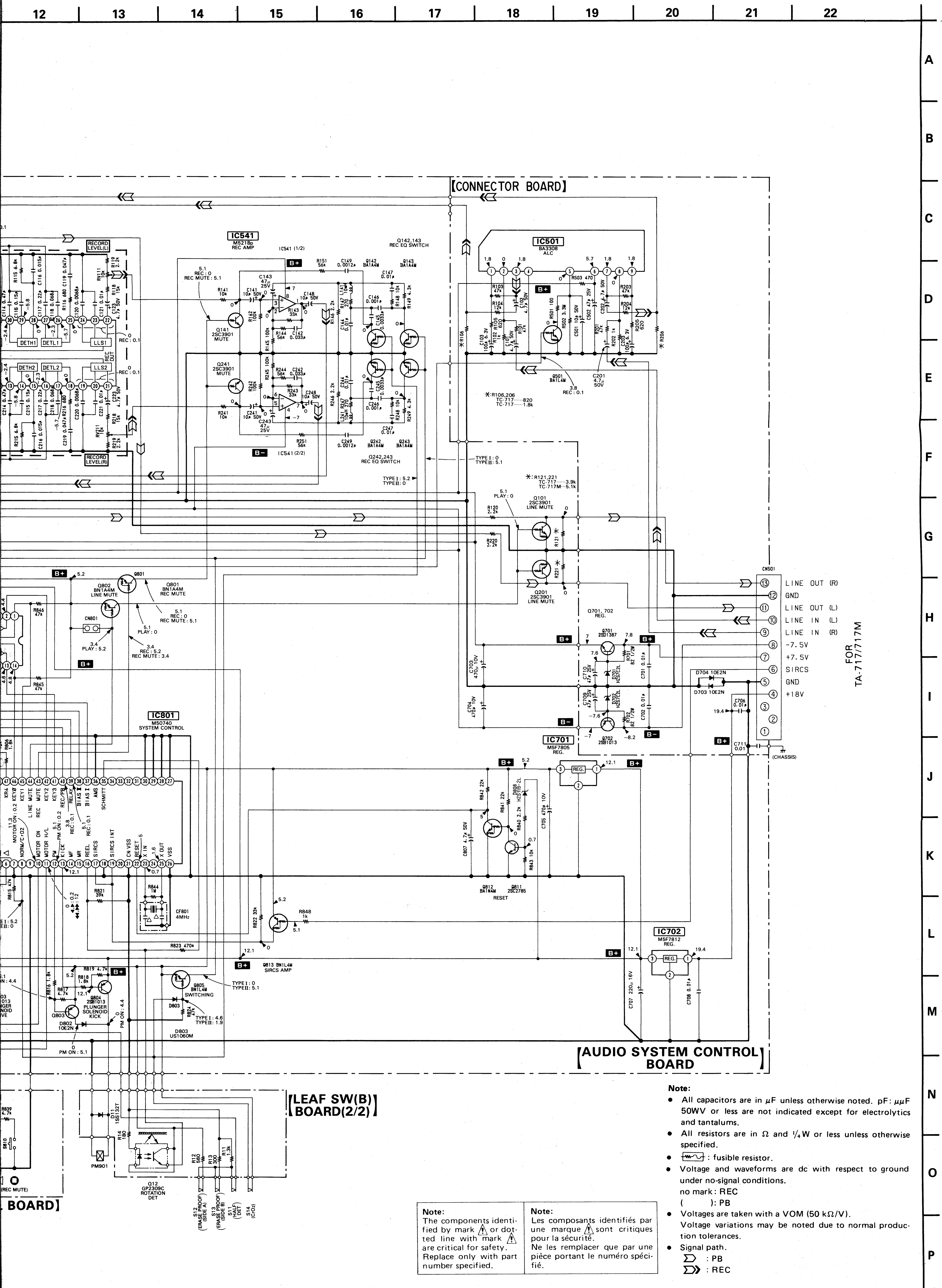

8
9
10
11
12
13
14
15
16
17
18
19
20
EM CONTROL BOARD]
TC-717M
IC551
IC541
IC801
Q231
Q131
Q101
Q141
Q241
Q243
Q242
Q142
Q143
Q813
Q810
Q809
Q804
Q802
Q803
Q805
D808
Q811
Q812
CNP803
11
TC-717
D511
R513
IC551
M901
REEL/CAPSTAN
MOTOR
BLU
WHT
GRY
BLK
(CHASSIS)
(CHASSIS)
CNJ13
CNJ12
CNJ81
BLK
ORG
BRN
BLU
YEL
WHT
RED
HRP101/HE101
RECORD/PLAYBACK/ERASE
HEAD
CNJ82
CNJ83
[MD (B) BOARD]
Q11
Q81
Q82
Q83
IC81
D81
RV62
RV42
RV61
RV41
CNP13
CNP12
CNP82
CNP83
CNP81
RY81
T81 BIAS OSC
SONY
14
[LEAF SW (B) BOARD]
Q12
D11
CNJ11
CNP11
PM901
S12 (ERASE PROOF) SIDE A
S11 (HALF DET)
S14 (CrO2)
S13 (ERASE PROOF) SIDE B
14

- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D11	H-20	Q11	G-14	Q807	E-8
D81	I-15	Q12	G-18	Q808	E-8
D511	C-13 (TC-717)	Q81	G-14	Q809	G-9
D701	C-5	Q82	H-15	Q810	G-9
D702	C-6	Q83	H-15	Q811	H-10
D703	C-6	Q101	C-8	Q812	H-10
D704	C-6	Q131	B-8	Q813	F-8
D802	H-9	Q141	E-9		
D803	H-9	Q142	F-10		
D804	F-3	Q143	F-10		
D805	F-4	Q201	C-8		
D806	E-2	Q231	B-9		
D807	F-2	Q241	E-9		
D808	H-10	Q242	E-10		
		Q243	D-10		
IC81	I-14	Q501	B-4		
IC501	B-4	Q701	B-5		
IC541	E-9	Q702	B-6		
IC551	C-9 (TC-717M)	Q801	G-7		
IC551	D-13 (TC-717)	Q802	G-7		
IC701	E-7	Q803	H-9		
IC702	D-7	Q804	H-9		
IC801	G-8	Q805	H-9		
IC802	H-7	Q806	D-8		

4-2. SCHEMATIC DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
IC551
CXA1101P
DOLBY NR AMP
D511
HZS7B3L
TC-717
[MD(B) BOARD]
IC81
μPC4570C-1
PB AMP
*:
TC-717
TC-717M
C131,231
0.047μ
0.056μ
R132,232
12k
3.3k
R133,233
1.6k
1.2k
Q131 BA1A4M
PB EQ SWITCH
Q231 BA1A4M
PB EQ SWITCH
PLAYBACK LEVEL(L)
PLAYBACK LEVEL(R)
L-CH
R-CH
HPP101
RECORD/PLAYBACK HEAD
TC-717M
IC551
CX20187
DOLBY NR AMP
REC PB
ON-OFF
LINE IN
PB IN
LINE OUT
SPK111
SPK211
HLS1
HLS2
DETH1
DETH2
L41 27mH
L61 27mH
RECORD BIAS
RY81
Q81
2SD1388
BIAS POWER SWITCHING
Q82
2SC2001
Q83
2SC2001
Q82,83
BIAS OSC
T81
BIAS OSC
HE101
ERASE HEAD
Q806
BN1A4M
SWITCHING (RELAY)
Q807 BN1A4M
Q808 BN1A4M
Q807,808
BIAS SWITCH
TYPE I
TYPE II
IC802
LM339N
AMP
IC801
[LEAF SW(B) BOARD(1/2)]
M901
REEL/CAPSTAN
Q11
2SA1175TP
MOTOR DRIVE
Q810 2SA1175
Q809 2SB1013
SWITCHING
MOTOR ON : 11.6
MOTOR ON : 11
Q803
2SB1013
PLUNGER SOLENOID DRIVE
PM ON : 4.4
LED ON : 0.6
LED ON : 0.5
S511
DOLBY NR
OFF → ON
OFF → B → C
D804 SEL1210S
D805 SEL1910A
D806 SEL1410E
D807 SEL1410E
S802
DIRECTION MODE
S803
S804
S805
S806
S807
S808
S809
S810
(REC)
(PAUSE)
(REC MUTE)
[PANEL BOAR
B+
B−


12
13
14
15
16
17
18
19
20
21
22
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
[CONNECTOR BOARD]
IC541
M5218P
REC AMP
IC541 (1/2)
IC541 (2/2)
Q142,143
REC EQ SWITCH
Q242,243
REC EQ SWITCH
Q141
2SC3901
MUTE
Q241
2SC3901
MUTE
IC501
BA3308
ALC
Q501
BA1L4M
*:R106,206
TC-717……820
TC-717……1.8k
RECORD LEVEL(L)
RECORD LEVEL(R)
DETH1
DETL1
DETH2
DETL2
LLS1
LLS2
*:R121,221
TC-717……3.9k
TC-717M…5.1k
Q101
2SC3901
LINE MUTE
Q201
2SC3901
LINE MUTE
Q801
BN1A4M
REC MUTE
Q802
BN1A4M
LINE MUTE
CN801
Q701, 702
REG.
Q701
2SD1387
Q702
2SB1013
IC701
M5F7805
REG.
IC702
M5F7812
REG.
CN501
LINE OUT (R)
GND
LINE OUT (L)
LINE IN (L)
LINE IN (R)
-7.5V
+7.5V
SIRCS
GND
+18V
(CHASSIS)
FOR
TA-717/717M
IC801
M50740
SYSTEM CONTROL
CF801
4MHz
Q812
BA1N4M
Q811
2SC2785
RESET
Q813 BN1L4M
SIRCS AMP
Q804
2SB1013
PLUNGER
SOLENOID
KICK
Q805
BN1L4M
SWITCHING
D803
US1060M
D802
10E2N
PM901
Q12
GP2309C
ROTATION
DET
S12 (ERASE PROOF) (SIDE A)
S13 (ERASE PROOF) (SIDE B)
S11 (HALF DET)
S14 (CrO2)
[AUDIO SYSTEM CONTROL BOARD]
[LEAF SW(B) BOARD(2/2)]
(REC MUTE)
BOARD]
TYPE I : 0
TYPE II : 5.1
TYPE I : 5.2
TYPE II : 0
TYPE I : 4.6
TYPE II : 1.9
PM ON : 5.1
B+
B-

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¹/₄ W or less unless otherwise specified.
- ⊏⩘⊐ : fusible resistor.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : REC
  ( ) : PB
- Voltages are taken with a VOM (50 kΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⊃ : PB
  ⊃⊃ : REC

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 5
EXPLODED VIEWS

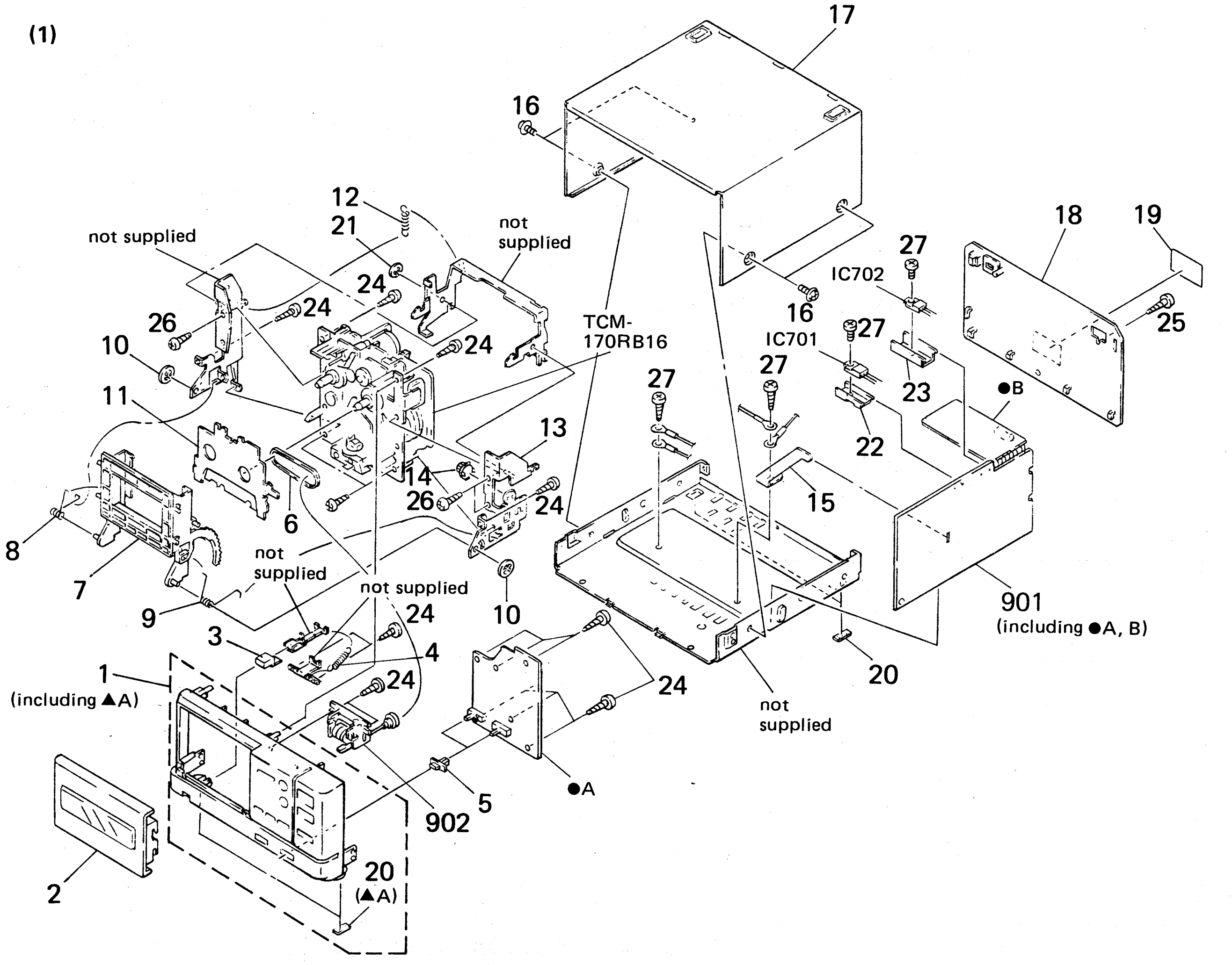
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) ... KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

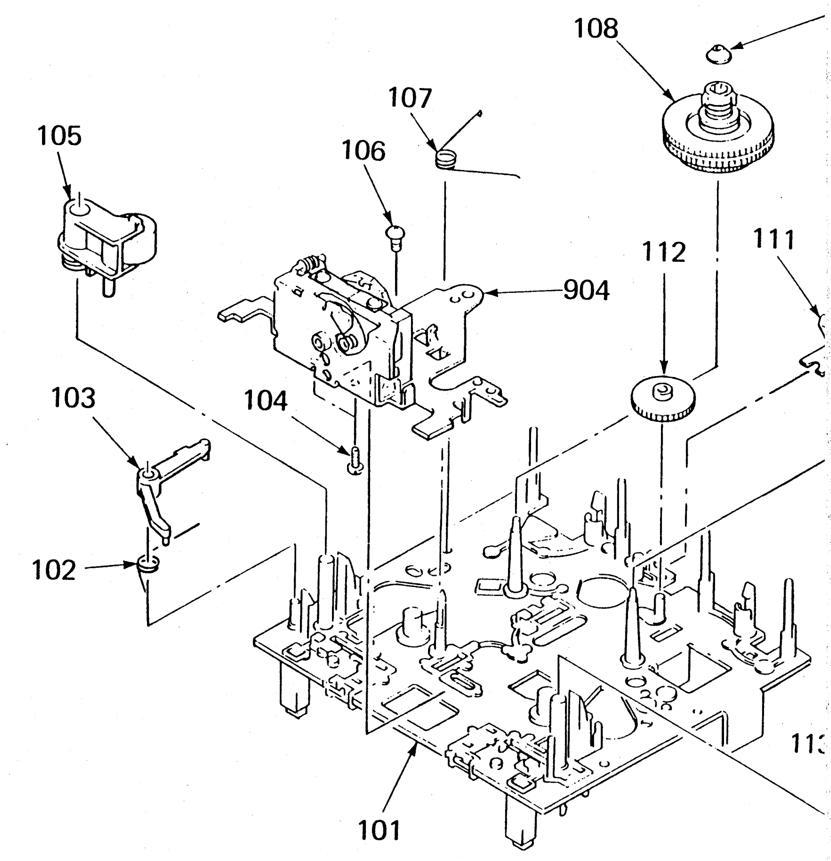
(1)



No.	Part No.	Description	Remarks
1	X-3352-801-1	(717)....PANEL ASSY, FRONT	
	X-3352-804-1	(717M)...PANEL ASSY, FRONT	
2	X-3352-802-1	(717)....LID ASSY, CASSETTE	
	X-3352-805-1	(717M)...LID ASSY, CASSETTE	
3	3-352-810-01	BUTTON (EJECT)	
4	3-446-154-XX	SPRING, TENSION	
5	3-352-811-01	KNOB	
6	3-508-107-01	BELT, COUNTER	
7	X-3343-628-1	HOLDER ASSY, CASSETTE	
8	3-343-687-01	SPRING (LOADING LEFT)	
9	3-343-688-01	SPRING (LOADING RIGHT)	
10	7-624-190-31	STOP RING 4, TYPE-CS	
11	*3-352-809-01	RETAINER, CASSETTE	
12	3-343-689-01	SPRING, TENSION	
13	*X-3343-627-1	BRACKET (RB) ASSY	
14	X-3332-464-1	GEAR (DAMPER) ASSY	
15	*3-327-845-01	BRACKET	
16	3-704-366-01	SCREW (CASE) (M3X8)	

No.	Part No.	Description	Remarks
17	4-930-355-01	(717M)...CASE	
	4-930-355-11	(717)....CASE	
18	*3-352-815-01	PANEL, BACK	
19	*3-352-801-01	(717M:US,Canadian,AEP,UK) ...LABEL, MODEL NUMBER	
	*3-352-802-01	(717M:West Germany)...LABEL, MODEL NUMBER	
	*3-352-803-01	(717).................LABEL, MODEL NUMBER	
20	4-930-336-01	FOOT (FELT)	
21	7-624-105-04	STOP RING 2.3, TYPE -E	
22	*3-309-144-21	HEAT SINK	
23	*4-880-403-11	HEAT SINK	
24	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
25	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
26	7-621-770-87	SCREW +BVTT 2.6X5 (S)	
27	7-682-547-04	SCREW +BVTT 3X6 (S)	
901	*A-2006-093-A	(717M)...MOUNTED PCB, SYSTEM CONTROL	
	*A-2006-094-A	(717)....MOUNTED PCB, SYSTEM CONTROL	
902	1-548-596-41	COUNTER, TAPE (MIDDLE TYPE)	

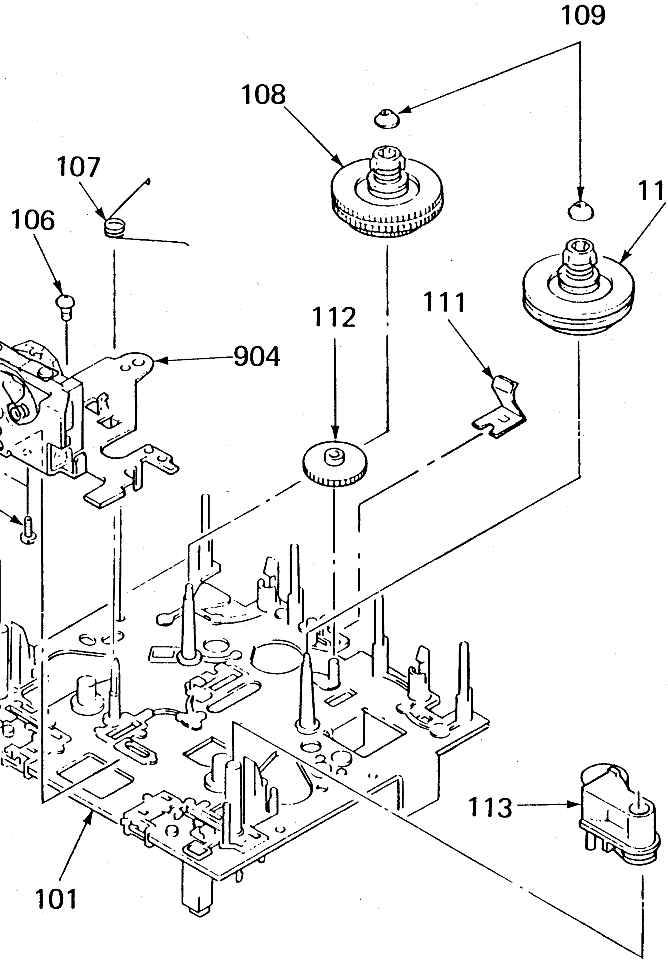
(2) TAPE TRANSPORT MECHANISM SECTION-1
(TCM-170RB16)



No.	Part No.	Description	Remarks
101	*X-3343-418-1	CHASSIS ASSY, MECHANICAL	
102	3-343-477-01	SPRING, TORSION (EJECT SAFTY)	
103	*3-343-476-01	LEVER (EJECT SAFETY LEVER)	
104	7-685-102-19	SCREW +P 2X4 NON-SLIT TYPE 2	
105	X-3343-403-1	LEVER (PINCH LEVER REV) ASSY	
106	7-621-773-86	SCREW +BVTT 2.6X4 (S)	
107	3-343-401-01	SPRING, TORSION	
108	X-3343-415-1	TABEL (REV) ASSY, REEL	

No.	Part No.	De
109	3-343-439-01	CA
110	X-3343-401-1	TA
111	3-343-420-01	SP
112	3-343-411-01	GE
113	X-3343-402-1	LE
904	A-2108-130-A	CH

NISM SECTION-1


109
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112
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904
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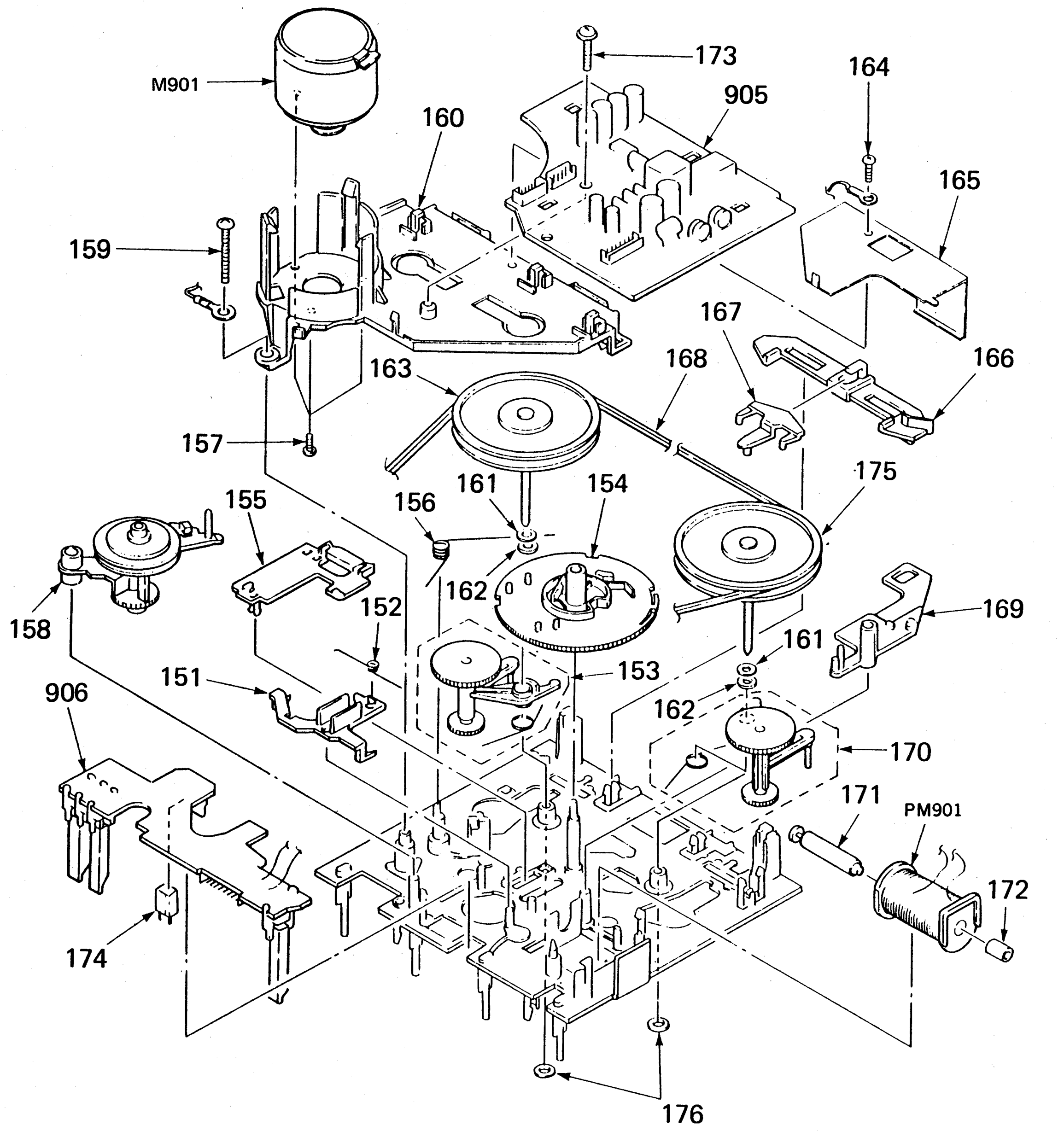
101

	Remarks
NICAL	
ECT SAFTY)	
LEVER)	
IT TYPE 2	
REV) ASSY	
(S)	
EEL	

No.	Part No.	Description	Remarks
109	3-343-439-01	CAP (REEL TABLE)	
110	X-3343-401-1	TABEL ASSY, REEL	
111	3-343-420-01	SPRING, LEAF	
112	3-343-411-01	GEAR (FF GEAR)	
113	X-3343-402-1	LEVER (PINCH LEVER FWD) ASSY	
904	A-2108-130-A	CHASSIS ASSY, HEAD (HE901, HRP901)	

(3) TAPE TRANSPORT MECHANISM SECTION-2
(TCM-170RB16)


M901
173
905
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PM901
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No.	Part No.	Description	Remarks
151	3-343-453-01	SLIDER (BRAKE PLATE)	
152	3-343-429-01	SPRING, TORSION	
153	X-3343-406-1	LEVER (TU ARM REV) ASSY	
154	3-343-470-01	GEAR (CAM GEAR)	
155	*3-343-461-01	SLIDER	
156	3-343-430-01	SPRING, TORSION	
157	7-627-556-28	SCREW +P 2.6X3.5	
158	X-3343-414-1	LAVER (FR ARM) ASSY	
159	3-343-403-01	SCREW (PTTWH 2X18)	
160	*X-3343-407-1	BASE (THRUST RETAINER) ASSY	
161	4-605-835-11	WASHER (2.6), POLYSLIDER	
162	3-307-482-00	WASHER, LUMILER	
163	X-3343-429-1	FLYWHEEL COMPLETE ASSY	
164	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
165	3-343-480-01	PLATE, SHIELD	

No.	Part No.	Description	Remarks
166	*3-343-457-01	SLIDER (REVERSE SLIDER)	
167	3-343-462-01	LEVER	
168	3-343-426-02	BELT (CAPSTAN BELT SQUARE)	
169	3-343-493-01	LEVER (PM LEVER)	
170	X-3343-405-1	LEVER (TU ARM FWD) ASSY	
171	*3-343-425-01	ARBOR(MOVABLE IRON ARBOR),IRON	
172	*3-343-424-01	ARBOR (FIXED IRON ARBOR), IRON	
173	3-343-404-01	SCREW (PTPWH 2X10)	
174	*3-343-419-01	HOLDER (S SENSER A)	
175	X-3343-431-1	FLYWHEEL (REV) COMPLETE ASSY	
176	3-343-473-01	WASHER, NYLON	
M901	X-3343-408-1	MOTOR ASSY	
905	*1-625-912-14	PC BOARD, MD (B)	
906	*1-624-148-11	PC BOARD, LEAF SW	
PM901	1-454-456-11	SOLENOID, PLUNGER	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			
901	*A-2006-093-A	(717M)...MOUNTED PCB, SYSTEM CONTROL			
	*A-2006-094-A	(717)....MOUNTED PCB, SYSTEM CONTROL			
902	1-548-596-41	COUNTER, TAPE (MIDDLE TYPE)			
904	A-2108-130-A	CHASSIS ASSY, HEAD (HE901,HRP901)			
905	*1-625-912-14	PC BOARD, MD (B)			
906	*1-624-148-11	PC BOARD, LEAF SW			
C41	1-110-342-11	MYLAR	390PF	5%	50V
C42	1-136-157-00	FILM	0.022MF	5%	50V
C43	1-124-282-00	ELECT	22MF	20%	25V
C44	1-162-288-31	CERAMIC	330PF	10%	50V
C45	1-136-273-91	FILM	75PF	5%	630V
C47	1-162-209-31	CERAMIC	27PF	5%	50V
C48	1-162-217-31	CERAMIC	56PF	5%	50V
C61	1-110-342-11	MYLAR	390PF	5%	50V
C62	1-136-157-00	FILM	0.022MF	5%	50V
C63	1-124-282-00	ELECT	22MF	20%	25V
C64	1-162-288-31	CERAMIC	330PF	10%	50V
C65	1-136-273-91	FILM	75PF	5%	630V
C67	1-162-209-31	CERAMIC	27PF	5%	50V
C68	1-162-217-31	CERAMIC	56PF	5%	50V
C81	1-126-101-11	ELECT	100MF	20%	16V
C82	1-126-101-11	ELECT	100MF	20%	16V
C83	1-124-499-11	ELECT	1MF	20%	50V
C84	1-124-925-11	ELECT	2.2MF	20%	50V
C85	1-130-480-00	MYLAR	0.0056MF	5%	50V
C86	1-130-476-00	MYLAR	0.0027MF	5%	50V
C87	1-130-476-00	MYLAR	0.0027MF	5%	50V
C88	1-136-562-11	FILM	0.0082MF	5%	630V
C89	1-161-494-00	CERAMIC	0.022MF		25V
C90	1-126-101-11	ELECT	100MF	20%	16V
C101	1-124-927-11	ELECT	4.7MF	20%	50V
C102	1-124-927-11	ELECT	4.7MF	20%	50V
C103	1-124-443-00	ELECT	100MF	20%	6.3V
C111	1-123-875-11	ELECT	10MF	20%	50V
C112	1-124-768-11	ELECT	4.7MF	20%	50V
C113	1-130-479-00	(717M)...MYLAR	0.0047MF	5%	50V
C114	1-136-173-00	(717M)...FILM	0.47MF	5%	50V
C114	1-136-175-00	(717)....FILM	0.68MF	5%	50V
C115	1-136-167-00	(717M)...FILM	0.15MF	5%	50V
C116	1-136-155-00	(717M)...FILM	0.015MF	5%	50V
C117	1-136-169-00	(717M)...FILM	0.22MF	5%	50V
C118	1-136-163-00	(717M)...FILM	0.068MF	5%	50V
C119	1-136-161-00	FILM	0.047MF	5%	50V
C120	1-130-481-00	(717M)...MYLAR	0.0068MF	5%	50V
C121	1-136-153-00	(717M)...FILM	0.01MF	5%	50V
C123	1-124-927-11	ELECT	4.7MF	20%	50V
C124	1-162-293-31	CERAMIC	820PF	10%	50V
C131	1-136-162-00	(717M)...FILM	0.056MF	5%	50V
C141	1-123-875-11	ELECT	10MF	20%	50V
C142	1-136-159-00	FILM	0.033MF	5%	50V
C143	1-124-477-11	ELECT	47MF	20%	25V
C144	1-136-153-00	FILM	0.01MF	5%	50V
C145	1-130-477-00	MYLAR	0.0033MF	5%	50V
C146	1-130-471-00	MYLAR	0.001MF	5%	50V
C147	1-136-153-00	FILM	0.01MF	5%	50V
C148	1-123-875-11	ELECT	10MF	20%	50V
C149	1-130-472-00	MYLAR	0.0012MF	5%	50V
C201	1-124-927-11	ELECT	4.7MF	20%	50V
C202	1-124-927-11	ELECT	4.7MF	20%	50V
C203	1-124-443-00	ELECT	100MF	20%	6.3V
C211	1-123-875-11	ELECT	10MF	20%	50V
C212	1-124-768-11	ELECT	4.7MF	20%	50V
C213	1-130-479-00	(717M)...MYLAR	0.0047MF	5%	50V
C214	1-136-173-00	(717M)...FILM	0.47MF	5%	50V
C214	1-136-175-00	(717)....FILM	0.68MF	5%	50V
C215	1-136-167-00	(717M)...FILM	0.15MF	5%	50V
C216	1-136-155-00	(717M)...FILM	0.015MF	5%	50V
C217	1-136-169-00	(717M)...FILM	0.22MF	5%	50V
C218	1-136-163-00	(717M)...FILM	0.068MF	5%	50V
C219	1-136-161-00	FILM	0.047MF	5%	50V
C220	1-130-481-00	(717M)...MYLAR	0.0068MF	5%	50V
C221	1-136-153-00	(717M)...FILM	0.01MF	5%	50V
C223	1-124-927-11	ELECT	4.7MF	20%	50V
C224	1-162-293-31	CERAMIC	820PF	10%	50V
C231	1-136-162-00	(717M)...FILM	0.056MF	5%	50V
C241	1-123-875-11	ELECT	10MF	20%	50V
C242	1-136-159-00	FILM	0.033MF	5%	50V
C243	1-124-477-11	ELECT	47MF	20%	25V
C244	1-136-153-00	FILM	0.01MF	5%	50V
C245	1-130-477-00	MYLAR	0.0033MF	5%	50V
C246	1-130-471-00	MYLAR	0.001MF	5%	50V
C247	1-136-153-00	FILM	0.01MF	5%	50V
C248	1-123-875-11	ELECT	10MF	20%	50V
C249	1-130-472-00	MYLAR	0.0012MF	5%	50V
C501	1-123-875-11	ELECT	10MF	20%	50V
C502	1-124-477-11	ELECT	47MF	20%	25V
C503	1-126-176-11	ELECT	220MF	20%	10V
C504	1-126-176-11	ELECT	220MF	20%	10V
C505	1-124-120-11	ELECT	220MF	20%	16V

Ref.No.	Part No.	Description			
C701	1-136-153-00	FILM	0.01MF	5%	50V
C702	1-136-153-00	FILM	0.01MF	5%	50V
C703	1-124-472-11	ELECT	470MF	20%	10V
C704	1-124-472-11	ELECT	470MF	20%	10V
C705	1-124-472-11	ELECT	470MF	20%	10V
C706	1-136-153-00	FILM	0.01MF	5%	50V
C707	1-124-120-11	ELECT	220MF	20%	16V
C708	1-136-153-00	FILM	0.01MF	5%	50V
C709	1-124-477-11	ELECT	47MF	20%	25V
C710	1-124-477-11	ELECT	47MF	20%	25V
C711	1-161-379-00	CERAMIC	0.01MF	30%	25V
C801	1-161-379-00	CERAMIC	0.01MF	30%	16V
C802	1-123-875-11	ELECT	10MF	20%	50V
C806	1-124-927-11	ELECT	4.7MF	20%	50V
C807	1-124-927-11	ELECT	4.7MF	20%	50V
CF801	1-577-082-11	VIBRATOR, CERAMIC			
CN501	*1-565-291-11	SOCKET, CONNECTOR 13P			
CN801	*1-560-060-00	PIN, CONNECTOR 2P			
CN802	*1-564-338-00	PIN, CONNECTOR 4P			
CN803	*1-564-341-11	PIN, CONNECTOR 7P			
CNP11	*1-564-501-11	PIN, CONNECTOR 8P			
CNP12	*1-564-337-00	PIN, CONNECTOR 3P			
CNP13	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CNP81	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			
CNP82	*1-564-339-00	PIN, CONNECTOR 5P			
CNP83	*1-564-338-00	PIN, CONNECTOR 4P			
D11	8-719-940-76	DIODE 1SS132			
D81	8-719-940-76	DIODE 1SS132			
D511	8-719-933-48	(717)...ZENER DIODE HZS7B3L			
D701	8-719-000-96	DIODE UZL-7H2			
D702	8-719-000-96	DIODE UZL-7H2			
D703	8-719-200-77	DIODE 10E2N			
D704	8-719-200-77	DIODE 10E2N			
D802	8-719-200-77	DIODE 10E2N			
D803	8-719-000-26	DIODE US1060M			
D804	8-719-302-45	LED SEL1210S			
D805	8-719-941-46	LED GL-5HY41			
D806	8-719-302-52	LED SEL1410E			
D807	8-719-302-52	LED SEL1410E			
D808	8-719-934-71	ZENER DIODE HZS11B-2L			
IC81	8-759-111-44	IC UPC4570C-1			
IC501	8-759-939-73	IC BA3308			
IC541	8-759-601-02	IC M5218P			
IC551	8-752-018-70	(717M)...IC CX20187			
IC551	8-752-031-83	(717)....IC CXA1101P			
IC701	8-759-604-29	IC M5F7805			
IC702	8-759-604-33	IC M5F7812			
IC801	8-759-632-51	IC M50740-108SP			
IC802	8-759-984-03	IC LM339N			
L41	1-410-780-11	INDUCTOR	27MMH		
L61	1-410-780-11	INDUCTOR	27MMH		
L141	1-410-775-21	INDUCTOR	10MMH		
L241	1-410-775-21	INDUCTOR	10MMH		
M901	X-3343-408-1	MOTOR ASSY			
PM901	1-454-456-11	SOLENOID, PLUNGER			
Q11	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q12	8-719-939-23	PHOTO TRANSISTOR GP2S09-C			
Q81	8-729-111-29	TRANSISTOR 2SD1388			
Q82	8-729-100-13	TRANSISTOR 2SC2001			
Q83	8-729-100-13	TRANSISTOR 2SC2001			
Q101	8-729-806-26	TRANSISTOR 2SC3901			
Q131	8-729-115-79	TRANSISTOR BA1A4M			
Q141	8-729-806-26	TRANSISTOR 2SC3901			
Q142	8-729-115-79	TRANSISTOR BA1A4M			
Q143	8-729-115-79	TRANSISTOR BA1A4M			
Q201	8-729-806-26	TRANSISTOR 2SC3901			
Q231	8-729-115-79	TRANSISTOR BA1A4M			
Q241	8-729-806-26	TRANSISTOR 2SC3901			
Q242	8-729-115-79	TRANSISTOR BA1A4M			
Q243	8-729-115-79	TRANSISTOR BA1A4M			
Q501	8-729-115-77	TRANSISTOR BA1L4M			
Q701	8-729-801-93	TRANSISTOR 2SD1387			
Q702	8-729-801-83	TRANSISTOR 2SB1013			
Q801	8-729-115-15	TRANSISTOR BN1A4M			
Q802	8-729-115-15	TRANSISTOR BN1A4M			
Q803	8-729-801-83	TRANSISTOR 2SB1013			
Q804	8-729-801-83	TRANSISTOR 2SB1013			
Q805	8-729-115-12	TRANSISTOR BN1L4M			
Q806	8-729-115-15	TRANSISTOR BN1A4M			
Q807	8-729-115-15	TRANSISTOR BN1A4M			
Q808	8-729-115-15	TRANSISTOR BN1A4M			
Q809	8-729-801-83	TRANSISTOR 2SB1013			
Q810	8-729-173-38	TRANSISTOR 2SA733			
Q811	8-729-119-78	TRANSISTOR 2SC2785			
Q812	8-729-115-77	TRANSISTOR BA1L4M			
Q813	8-729-900-63	TRANSISTOR DTA124ES			
R11	1-247-834-11	CARBON	1.3K	5%	1/4W
R12	1-249-414-11	CARBON	560	5%	1/4W
R13	1-247-818-11	CARBON	300	5%	1/4W
R14	1-249-408-11	CARBON	180	5%	1/4W
R17	1-249-437-11	CARBON	47K	5%	1/4W
R18	1-249-437-11	CARBON	47K	5%	1/4W

Ref.No.	Part No.	Description
R41	1-247-881-00	CARBON 120K 5% 1/4W
R42	1-249-405-11	CARBON 100 5% 1/4W
R43	1-247-882-11	CARBON 130K 5% 1/4W
R44	1-249-426-11	CARBON 5.6K 5% 1/4W
R45	1-249-430-11	CARBON 12K 5% 1/4W
R61	1-247-881-00	CARBON 120K 5% 1/4W
R62	1-249-405-11	CARBON 100 5% 1/4W
R63	1-247-882-11	CARBON 130K 5% 1/4W
R64	1-249-426-11	CARBON 5.6K 5% 1/4W
R65	1-249-430-11	CARBON 12K 5% 1/4W
R81	1-249-409-11	CARBON 220 5% 1/4W
R82	1-249-409-11	CARBON 220 5% 1/4W
R83	1-249-429-11	CARBON 10K 5% 1/4W
R84	⚠.1-212-849-00	FUSIBLE 4.7 5% 1/4W F
R85	1-249-435-11	CARBON 33K 5% 1/4W
R86	1-249-435-11	CARBON 33K 5% 1/4W
R101	1-249-437-11	CARBON 47K 5% 1/4W
R102	1-249-417-11	CARBON 1K 5% 1/4W
R103	1-249-437-11	CARBON 47K 5% 1/4W
R104	1-249-430-11	CARBON 12K 5% 1/4W
R105	1-247-826-00	CARBON 620 5% 1/4W
R106	1-249-416-11	(717)....CARBON 820 5% 1/4W
R106	1-249-420-11	(717M)...CARBON 1.8K 5% 1/4W
R110	1-249-429-11	(717M)...CARBON 10K 5% 1/4W
R111	1-249-423-11	CARBON 3.3K 5% 1/4W
R112	1-249-423-11	(717M)...CARBON 3.3K 5% 1/4W
R113	1-249-423-11	(717M)...CARBON 3.3K 5% 1/4W
R114	1-247-822-11	(717M)...CARBON 430 5% 1/4W
R115	1-249-427-11	(717M)...CARBON 6.8K 5% 1/4W
R116	1-249-415-11	(717M)...CARBON 680 5% 1/4W
R118	1-249-431-11	CARBON 15K 5% 1/4W
R119	1-249-421-11	CARBON 2.2K 5% 1/4W
R120	1-249-421-11	CARBON 2.2K 5% 1/4W
R121	1-247-848-11	(717M)...CARBON 5.1K 5% 1/4W
R121	1-249-424-11	(717)....CARBON 3.9K 5% 1/4W
R131	1-249-418-11	CARBON 1.2K 5% 1/4W
R132	1-249-423-11	(717M)...CARBON 3.3K 5% 1/4W
R132	1-249-430-11	(717)....CARBON 12K 5% 1/4W
R133	1-247-836-11	(717)....CARBON 1.6K 5% 1/4W
R133	1-249-418-11	(717M)...CARBON 1.2K 5% 1/4W
R134	1-247-887-00	CARBON 220K 5% 1/4W
R141	1-249-429-11	CARBON 10K 5% 1/4W
R142	1-249-441-11	CARBON 100K 5% 1/4W
R143	1-249-435-11	CARBON 33K 5% 1/4W
R144	1-249-438-11	CARBON 56K 5% 1/4W
R145	1-249-441-11	CARBON 100K 5% 1/4W
R146	1-249-421-11	CARBON 2.2K 5% 1/4W
R147	1-249-410-11	CARBON 270 5% 1/4W
R148	1-249-429-11	CARBON 10K 5% 1/4W
R149	1-247-846-11	CARBON 4.3K 5% 1/4W
R151	1-249-438-11	CARBON 56K 5% 1/4W
R201	1-249-437-11	CARBON 47K 5% 1/4W
R202	1-249-417-11	CARBON 1K 5% 1/4W
R203	1-249-437-11	CARBON 47K 5% 1/4W
R204	1-249-430-11	CARBON 12K 5% 1/4W
R205	1-247-826-00	CARBON 620 5% 1/4W
R206	1-249-416-11	(717)....CARBON 820 5% 1/4W
R206	1-249-420-11	(717M)...CARBON 1.8K 5% 1/4W
R210	1-249-429-11	(717M)...CARBON 10K 5% 1/4W
R211	1-249-423-11	CARBON 3.3K 5% 1/4W
R212	1-249-423-11	(717M)...CARBON 3.3K 5% 1/4W
R213	1-249-423-11	(717M)...CARBON 3.3K 5% 1/4W
R214	1-247-822-11	(717M)...CARBON 430 5% 1/4W
R215	1-249-427-11	(717M)...CARBON 6.8K 5% 1/4W
R216	1-249-415-11	(717M)...CARBON 680 5% 1/4W
R218	1-249-431-11	CARBON 15K 5% 1/4W
R219	1-249-421-11	CARBON 2.2K 5% 1/4W
R220	1-249-421-11	CARBON 2.2K 5% 1/4W
R221	1-247-848-11	(717M)...CARBON 5.1K 5% 1/4W
R221	1-249-424-11	(717)....CARBON 3.9K 5% 1/4W
R231	1-249-418-11	CARBON 1.2K 5% 1/4W
R232	1-249-423-11	(717M)...CARBON 3.3K 5% 1/4W
R232	1-249-430-11	(717)....CARBON 12K 5% 1/4W
R233	1-249-418-11	(717M)...CARBON 1.2K 5% 1/4W
R233	1-247-836-11	(717)....CARBON 1.6K 5% 1/4W
R234	1-247-887-00	CARBON 220K 5% 1/4W
R241	1-249-429-11	CARBON 10K 5% 1/4W
R242	1-249-441-11	CARBON 100K 5% 1/4W
R243	1-249-435-11	CARBON 33K 5% 1/4W
R244	1-249-438-11	CARBON 56K 5% 1/4W
R245	1-249-441-11	CARBON 100K 5% 1/4W
R246	1-249-421-11	CARBON 2.2K 5% 1/4W
R247	1-249-410-11	CARBON 270 5% 1/4W
R248	1-249-429-11	CARBON 10K 5% 1/4W
R249	1-247-846-11	CARBON 4.3K 5% 1/4W
R251	1-249-438-11	CARBON 56K 5% 1/4W
R501	1-249-405-11	CARBON 100 5% 1/4W
R502	1-259-882-81	CARBON 3.3M 5% 1/4W
R503	1-249-413-11	CARBON 470 5% 1/4W
R511	1-249-429-11	CARBON 10K 5% 1/4W
R512	1-249-437-11	(717)....CARBON 47K 5% 1/4W
R513	1-215-460-00	(717)....METAL 43K 1% 1/6W
R513	1-215-469-00	(717M)...METAL 100K 1% 1/6W
R514	1-249-433-11	CARBON 22K 5% 1/4W
R515	1-249-433-11	(717M)...CARBON 22K 5% 1/4W
R701	1-247-738-11	CARBON 82 5% 1/2W
R702	1-247-738-11	CARBON 82 5% 1/2W
R801	1-249-429-11	CARBON 10K 5% 1/4W
R802	1-249-440-11	CARBON 82K 5% 1/4W
R803	1-249-435-11	CARBON 33K 5% 1/4W
R804	1-249-432-11	CARBON 18K 5% 1/4W
R805	1-249-429-11	CARBON 10K 5% 1/4W
R806	1-249-420-11	CARBON 1.8K 5% 1/4W
R807	1-249-437-11	CARBON 47K 5% 1/4W
R808	1-249-421-11	CARBON 2.2K 5% 1/4W
R809	1-249-421-11	CARBON 2.2K 5% 1/4W
R810	1-249-417-11	CARBON 1K 5% 1/4W
R811	1-249-411-11	CARBON 330 5% 1/4W
R812	1-249-411-11	CARBON 330 5% 1/4W
R813	1-249-408-11	CARBON 180 5% 1/4W
R814	1-249-408-11	CARBON 180 5% 1/4W
R815	1-249-437-11	CARBON 47K 5% 1/4W
R816	1-249-420-11	CARBON 1.8K 5% 1/4W
R817	1-249-425-11	CARBON 4.7K 5% 1/4W
R818	1-249-420-11	CARBON 1.8K 5% 1/4W
R819	1-249-425-11	CARBON 4.7K 5% 1/4W
R821	1-249-436-11	CARBON 39K 5% 1/4W
R822	1-249-435-11	CARBON 33K 5% 1/4W
R823	1-247-895-00	CARBON 470K 5% 1/4W
R824	1-249-437-11	CARBON 47K 5% 1/4W
R825	1-249-425-11	CARBON 4.7K 5% 1/4W
R826	1-249-413-11	CARBON 470 5% 1/4W
R827	1-247-850-11	CARBON 6.2K 5% 1/4W
R828	1-249-421-11	CARBON 2.2K 5% 1/4W
R831	1-249-417-11	CARBON 1K 5% 1/4W
R832	1-249-437-11	CARBON 47K 5% 1/4W
R833	1-249-427-11	CARBON 6.8K 5% 1/4W
R834	1-249-416-11	CARBON 820 5% 1/4W
R835	1-249-414-11	CARBON 560 5% 1/4W
R836	1-249-414-11	CARBON 560 5% 1/4W
R837	1-249-416-11	CARBON 820 5% 1/4W
R838	1-249-419-11	CARBON 1.5K 5% 1/4W
R839	1-249-425-11	CARBON 4.7K 5% 1/4W
R840	1-249-421-11	CARBON 2.2K 5% 1/4W
R841	1-249-433-11	CARBON 22K 5% 1/4W
R842	1-249-433-11	CARBON 22K 5% 1/4W
R843	1-249-429-11	CARBON 10K 5% 1/4W
R844	1-247-903-00	CARBON 1M 5% 1/4W
R845	1-249-437-11	CARBON 47K 5% 1/4W
R846	1-249-437-11	CARBON 47K 5% 1/4W
R847	1-249-425-11	CARBON 4.7K 5% 1/4W
R848	1-249-417-11	CARBON 1K 5% 1/4W
RV41	1-228-989-00	RES, ADJ, CARBON 470
RV42	1-230-500-11	RES, ADJ, CARBON 220K
RV61	1-228-989-00	RES, ADJ, CARBON 470
RV62	1-230-500-11	RES, ADJ, CARBON 220K
RV111	1-228-994-00	RES, ADJ, CARBON 10K
RV211	1-228-994-00	RES, ADJ, CARBON 10K
RY81	1-515-614-11	RELAY
S11	1-571-281-21	SWITCH, LEAF
S12	1-571-281-21	SWITCH, LEAF
S13	1-571-281-21	SWITCH, LEAF
S14	1-571-281-21	SWITCH, LEAF
S511	1-570-157-21	(717)....SWITCH, SLIDE (DOLBY ON/OFF)
S511	1-571-908-11	(717M)...SWITCH, SLIDE (DOLBY OFF/B/C)
S802	1-570-157-21	SWITCH, SLIDE (DIRECTION MODE)
S803	1-554-303-21	SWITCH, KEY BOARD (●)
S804	1-554-303-21	SWITCH, KEY BOARD (▶▶)
S805	1-554-303-21	SWITCH, KEY BOARD (◀◀)
S806	1-554-303-21	SWITCH, KEY BOARD (□)
S807	1-554-303-21	SWITCH, KEY BOARD (❚❚)
S808	1-554-303-21	SWITCH, KEY BOARD (▷)
S809	1-554-303-21	SWITCH, KEY BOARD (◁)
S810	1-554-303-21	SWITCH, KEY BOARD (○)
SPK111	1-235-186-00	(717M)...ENCAPSULATED COMPONENT
SPK211	1-235-186-00	(717M)...ENCAPSULATED COMPONENT
T81	1-433-337-11	TRANSFORMER, BIAS OSCILLATION

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Sony Corporation
Audio Group

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ST-818M

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model

SPECIFICATIONS

System	FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5-108 MHz
Antenna terminals	75 ohms unbalanced/300 ohm balanced
Intermediate frequency	10.7 MHz

MW/LW tuner section (for the AEP and UK models)

	MW	LW
Tuning range	531-1602 kHz (except Italian model) 522 - 1611 kHz (for the Italian model)	153 - 281 kHz (except Italian model) 144 - 288 kHz (for the Italian model)
Antenna	AM loop antenna (External antenna terminals)	

MW tuner section (for US, Canadian model)

	MW
Tuning range	530 - 1710 kHz
Antenna	AM loop antenna (External antenna terminals)

Design and specifications subject to change without notice.

MICROFILM

FM-AM TIMER TUNER

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

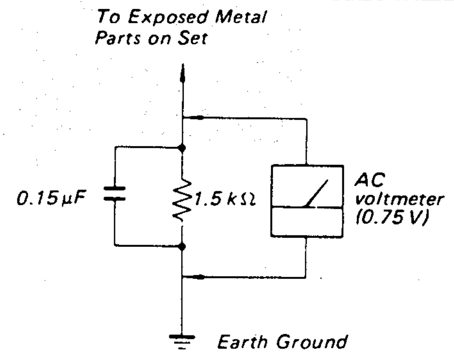


Fig. A. Using an AC voltmeter to check AC leakage.

• Power supply for service

Since this machine has no power source in itself, the power is supplied form AMP TA-818 or TA-818M used for this series.
As shown in the following table, this machine requires 4types of voltage, and supplying each type of voltage separately makes complicated connections.
Accordingly, make connection with TA-818/818M at time of service, such as electrifying repair.

AC 3.9V	FL-tube filament voltage
DC −24V	Display controller IC701, grid voltage
DC 5V	Display controller IC701, V_{CC}
DC 13V	PLL control voltage

• Service mode for checking the timer ON/OFF

1) Connect with AMP TA-818/818M, and set the power switch of TA-818/818M to the state of STANDBY.
2) Set the time of tuner to a proper time (any time).
3) Press 3 switches simultaneously, namely, PRESET ^{1}○, ^{6}○ and ○ BAND.
4) FL-tube display

All lamps lighting
↓ 1 sec.
10 : 23
↓ 0.5 sec.
10 : 24
↓ 0.5 sec.
Last channel ⟶ POWER ON
↓ 3 sec.
0 : 00 ⟶ POWER ON

5) End

—Caution for Service—

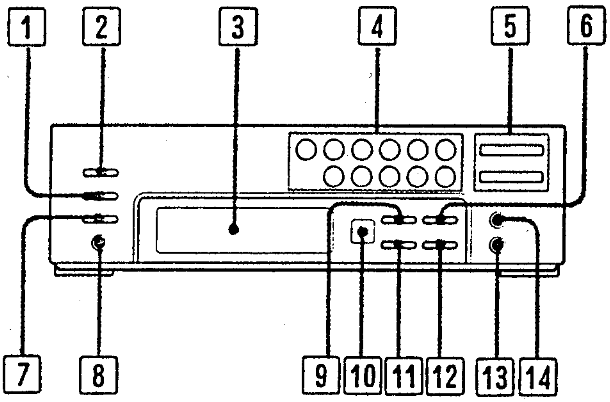
- **Reset of IC701**

The display controller IC701 is reset by short-circuiting both edges of C702 (0.47μF) while power OFF and discharging electricity.
After resetting, the following frequencies are pre-set to the memory.
When the repair is completed, return the memory to the preceding state (content).

FM	AM/MW			LW	
	US, Canadian model	AEP, UK model	Italian model	AEP, UK model	Italian model
A1 87.5 MHz	A6 530 kHz	A6 531 kHz	A6 522 kHz	B1 153 kHz	B1 144 kHz
A2 88.0 MHz	A7 620 kHz	A7 603 kHz	A7 603 kHz	B2 171 kHz	B2 162 kHz
A3 98.0 MHz	A8 1050 kHz	A8 999 kHz	A8 999 kHz	B3 216 kHz	B3 216 kHz
A4 100.0 MHz	A9 1490 kHz	A9 1404 kHz	A9 1404 kHz	B4 261 kHz	B4 270 kHz
A5 108.0 MHz	A0 1710 kHz	A0 1602 kHz	A0 1611 kHz	B5 281 kHz	B5 288 kHz

SECTION 1
GENERAL

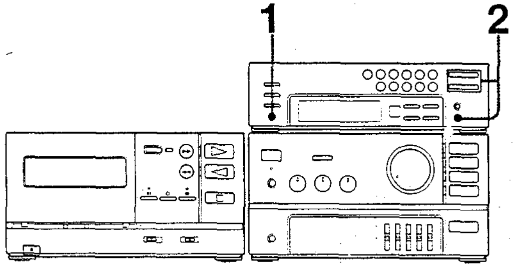
1-1. PARTS IDENTIFICATION



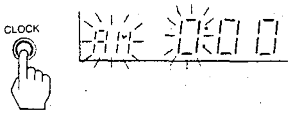
Tuner Section

1 TIMER SET button
2 TIMER CONTROL switch
3 Display window
4 PRESET STATION buttons
5 + / - buttons
6 MEMORY SCAN button
7 SLEEP button
8 CLOCK button
9 STEREO/MUTING button
10 Remote sensor
Receives the remote-control signals.
11 TIME/FREQUENCY button
12 PRESET/TUNING button
13 MEMORY/NEXT button
14 BAND selector

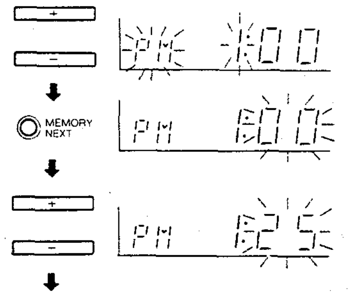
1-2. CLOCK SETTING



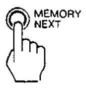
1



2 **Set the time. (e.g. PM 1:25)**
Ajuster l'heure. (Ex. 1:25 PM = après-midi)
Stellen Sie die Zeit ein. (Beispiel: 1:25 nachmittags)
Regolate l'orario. (Es. 1:25 PM)



Press MEMORY NEXT as soon as you hear the time signal.
Appuyer sur MEMORY NEXT dès que retentit un top horaire officiel.
Beim Zeitzeichen drücken Sie MEMORY NEXT.
Premete MEMORY NEXT in corrispondenza di un segnale orario.



The clock starts operating.
L'horloge commence alors à fonctionner.
Die Uhr beginnt zu laufen.
L'orologio inizia a funzionare.

← See illustrations on left for operation.

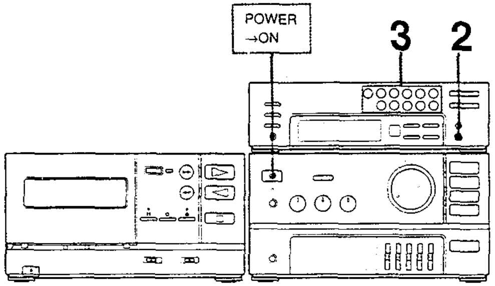
Information on the time

For the European model:	24-hour system "0:00" is midnight, and "12:00" is noon.
For the Canadian model:	12-hour system "AM 0:00" is midnight, and "PM 0:00" is noon.

When a power interruption occurs

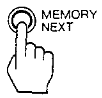
The time will blink and the clock will be delayed for the length of time of the power interruption. After the power is restored, the display must be reset to the proper time. (Timer setting is not cancelled by power interruption.)

1-3. STORING STATIONS IN THE MEMORY



1 **Tune in a desired station.**
Faire l'accord sur la station souhaitée.
Stimmen Sie auf den gewünschten Sender ab.
Sintonizzate la stazione desiderata.

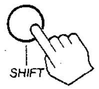
2



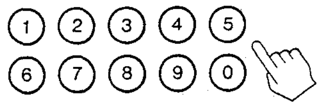
3 **Allot one of the following codes:**
Attribuer un des codes suivants:
Legen Sie einen der folgenden Codes fest:
Assegnate alla stazione da preselezionare uno dei seguenti codici:

A-1, A-2, •••, A-0,
B-1, •••, B-0.
C-1, •••, C-9, C-0

❶ First, select alphabet.
Choisir d'abord une lettre de l'alphabet.
Wählen Sie zuerst den Buchstaben.
Scegliete prima la lettera dell'alfabeto.



❷ Select number.
Choisir un chiffre.
Wählen Sie die Nummer.
Scegliete il numero.



4 **Repeat these steps for each station to be preset.**
Répéter ces démarches pour chacune des stations à prérégler.
Wiederholen Sie die obigen Schritte zum Abspeichern weiterer Sender.
Ripetete questi punti per ciascuna stazione da preselezionare.

The codes are denoted by a single letter (either A, B or C) followed by a digit number (1-9, 0). Therefore, there are 30 codes in total.

You can store a desired station on any of these codes.

The stored station can be recalled simply by entering its corresponding code.

← See illustrations on left for operation.

To tune into a Preset Station

Press SHIFT and the numeric button to select the desired code.

If you cannot store a station successfully
Press MEMORY again, and then enter the desired code.
Be sure to enter the code while the MEMORY indication is lit.

When you have pressed the wrong code
Press MEMORY and then enter the correct code.

Can a previously stored station be erased?
No. Erasing only is not possible, but storing a new station erases the previously stored one.

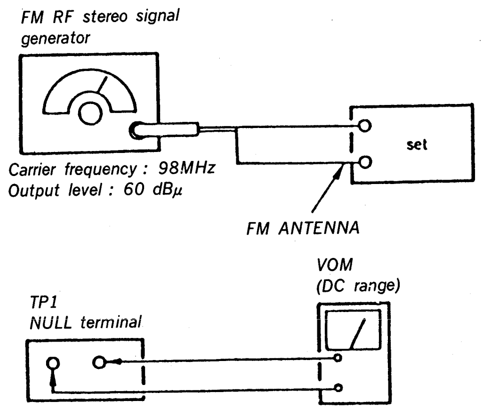
Important
If you leave the unit disconnected from the wall outlet for more than one month, stored stations may be erased from memory. In this case, store the stations again.

SECTION 2
ELECTRICAL ADJUSTMENTS

FM SECTION

• FM Discriminator Alignment (NULL check)

Setting :

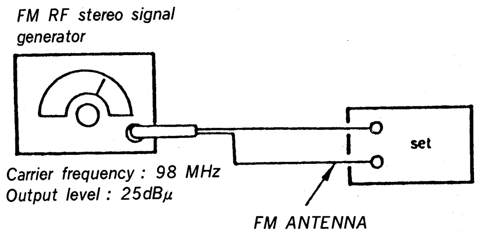

FM RF stereo signal generator
set
Carrier frequency : 98MHz
Output level : 60 dBμ
FM ANTENNA
VOM
(DC range)
TP1
NULL terminal

Procedure :
1. Tune the set to 98 MHz.
2. Adjust T21 for 0 V reading on the VOM.

Note : FM TUNING LEVEL adjustment should be made after FM discriminator alignment.

• FM TUNING LEVEL Adjustment

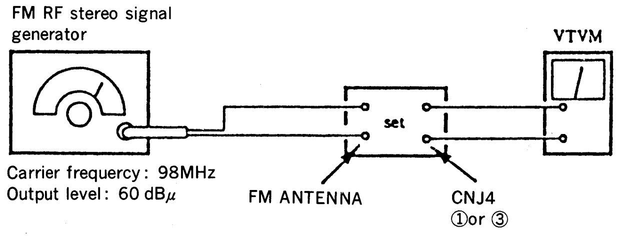
Setting :


FM RF stereo signal generator
set
Carrier frequency : 98 MHz
Output level : 25dBμ
FM ANTENNA

Procedure :
1. Tune the set to 98 MHz.
2. Adjust RV24 so that the TUNED LED goes on.

• FM Stereo Separation Adjustment

Setting :


FM RF stereo signal generator
VTVM
set
Carrier frequency : 98MHz
Output level : 60 dBμ
FM ANTENNA
CNJ4
①or ③

Procedure :
Tune the set to 98 MHz

FM stereo Signal generator Output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV21 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV21 for minimum reading.

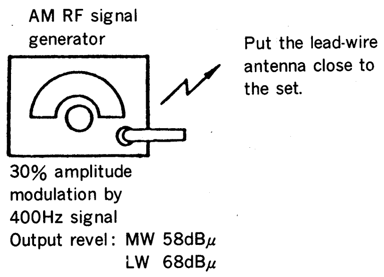
L-CH Stereo separation : Ⓐ-Ⓑ
R-CH Stereo separation : Ⓒ-Ⓓ

The separations of both channels should be equal.

AM SECTION

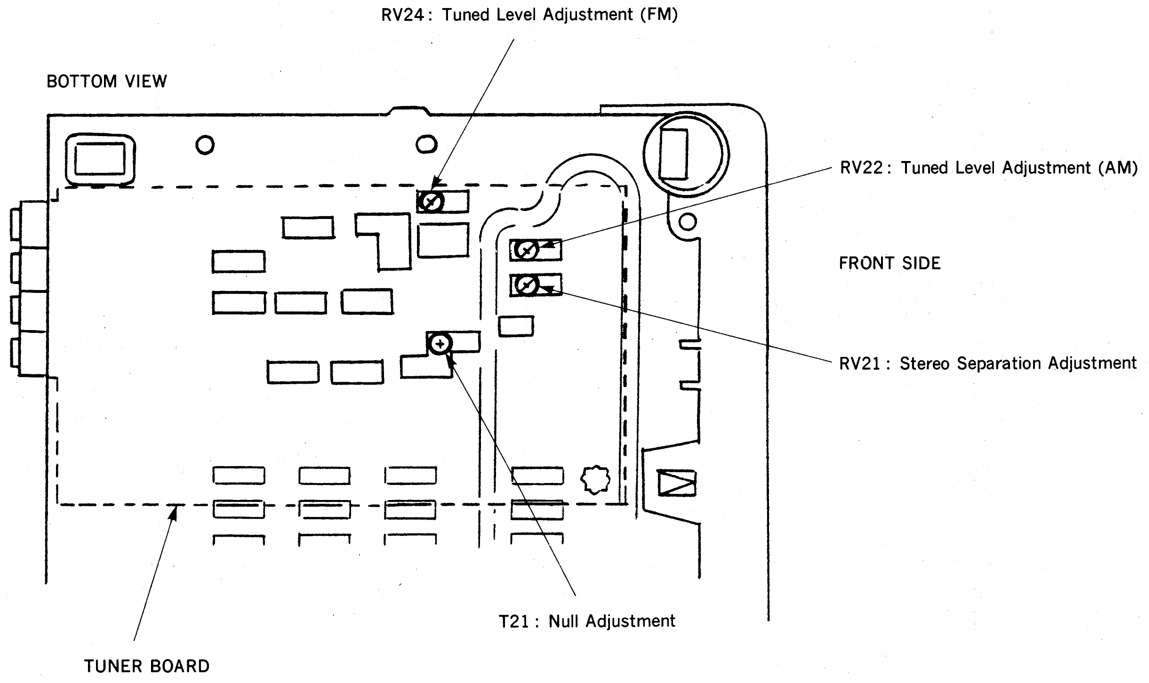
• MW/LW TUNING LEVEL Adjustment

Setting :


AM RF signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400Hz signal
Output revel : MW 58dBμ
LW 68dBμ

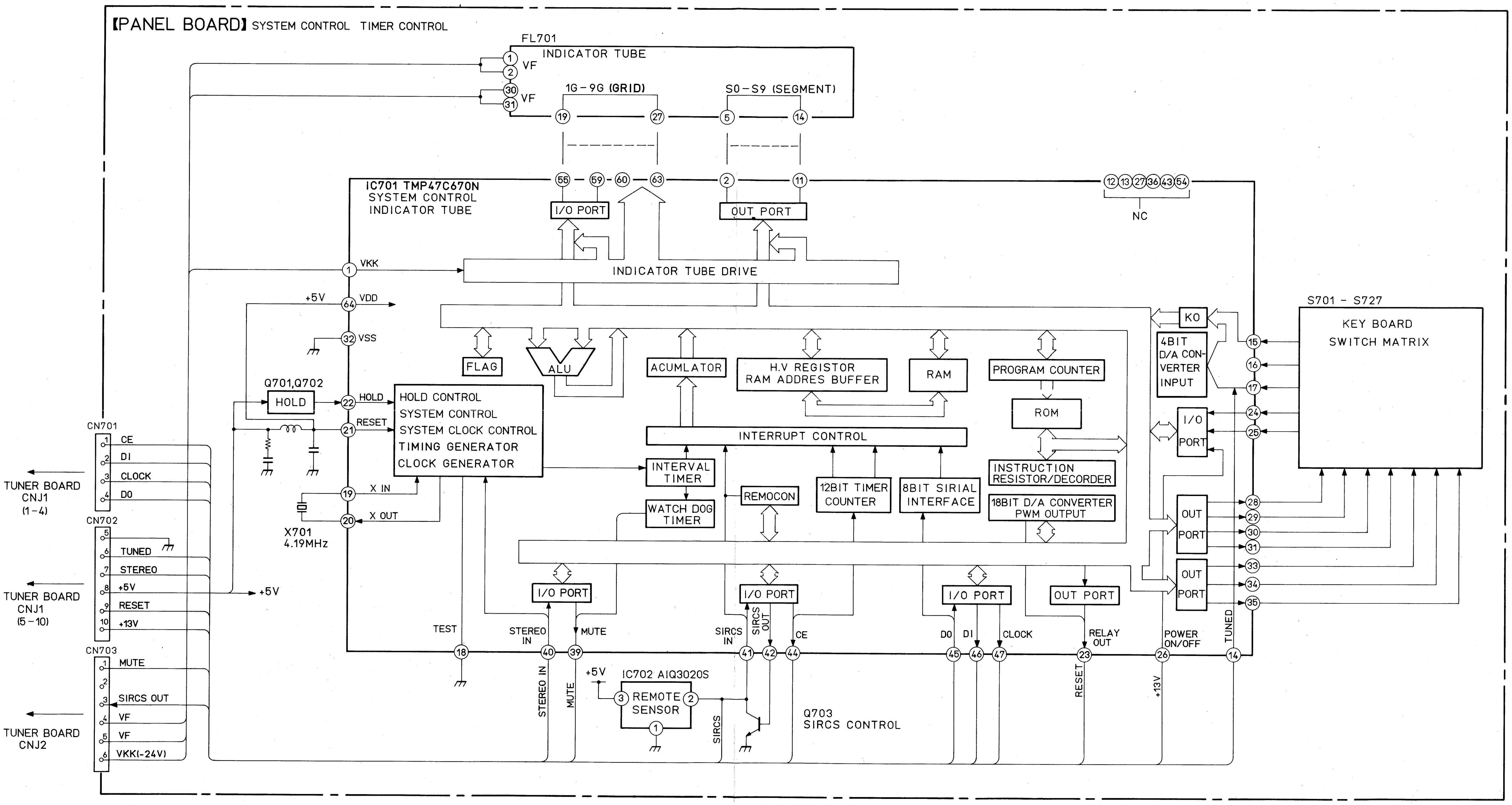
Procedure :
1. Tune the set to 1,490 kHz.
2. Adjust the RV22 so that the TUNED LED goes on.

[Parts Arrangement Diagram for Adjustments]

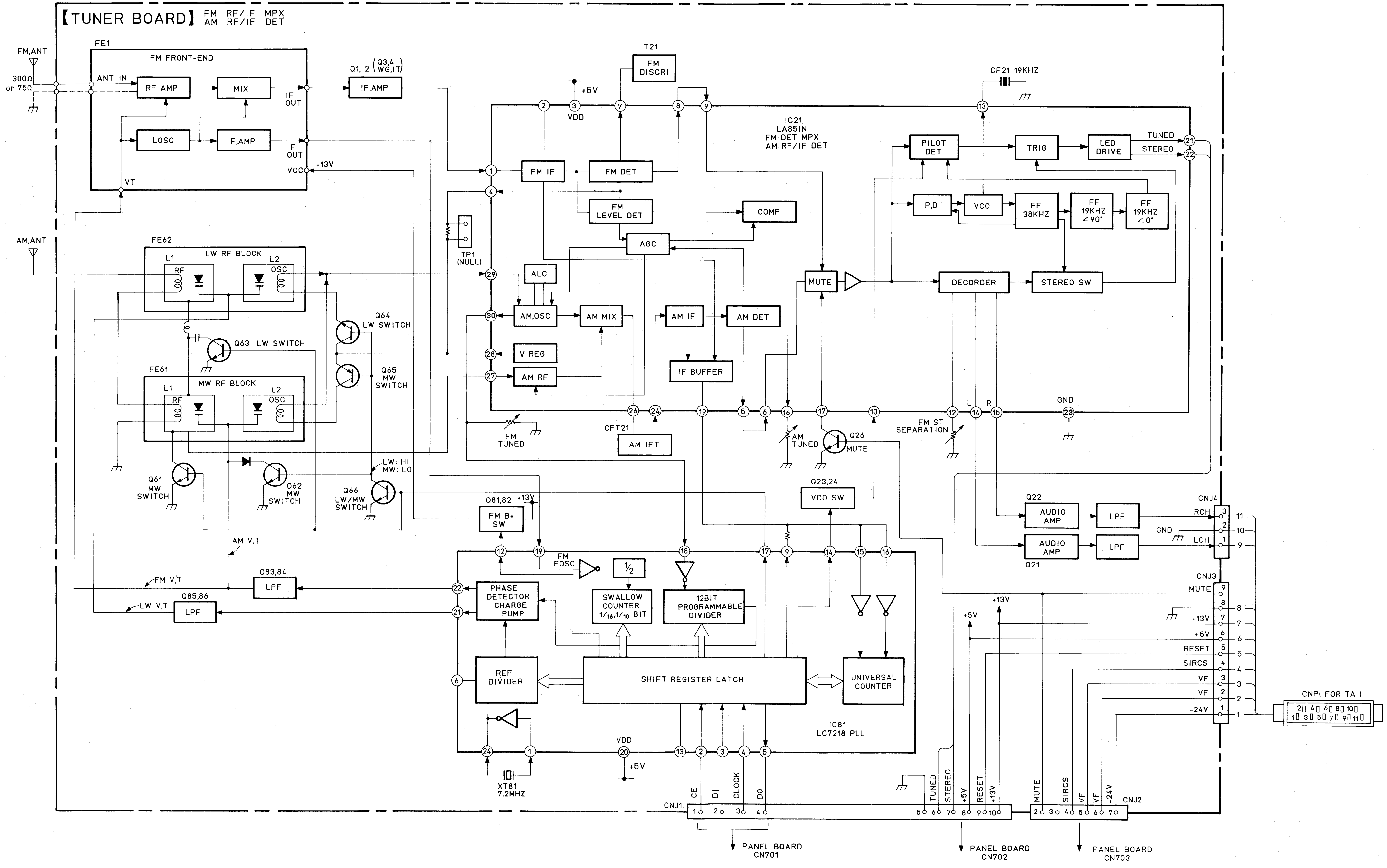

RV24 : Tuned Level Adjustment (FM)
BOTTOM VIEW
RV22 : Tuned Level Adjustment (AM)
FRONT SIDE
RV21 : Stereo Separation Adjustment
T21 : Null Adjustment
TUNER BOARD

SECTION 3
DIAGRAMS

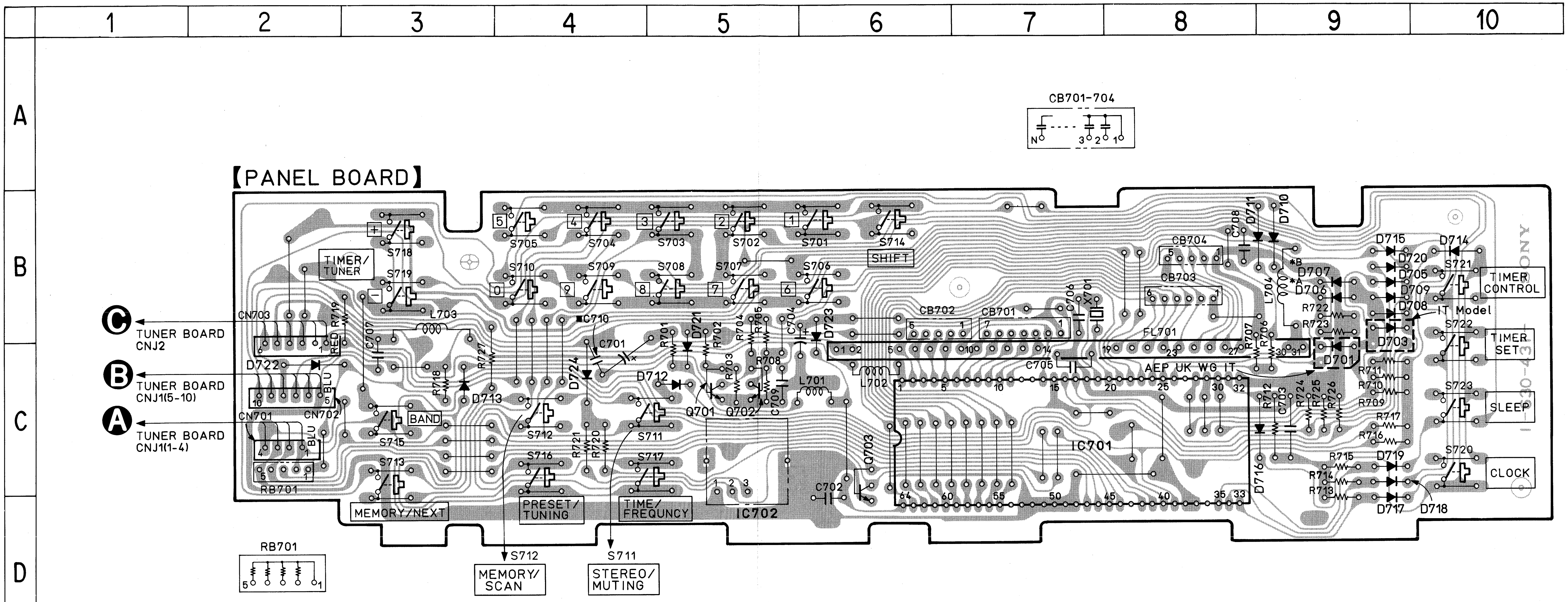
3-1. BLOCK DIAGRAM —PANEL BOARD—


[PANEL BOARD] SYSTEM CONTROL TIMER CONTROL
FL701
INDICATOR TUBE
VF
VF
1G – 9G (GRID)
S0 – S9 (SEGMENT)
IC701 TMP47C670N
SYSTEM CONTROL
INDICATOR TUBE
I/O PORT
OUT PORT
NC
VKK
INDICATOR TUBE DRIVE
+5V
VDD
VSS
FLAG
ALU
ACUMLATOR
H.V REGISTOR
RAM ADDRES BUFFER
RAM
PROGRAM COUNTER
ROM
KO
4BIT D/A CONVERTER INPUT
I/O PORT
S701 – S727
KEY BOARD
SWITCH MATRIX
Q701,Q702
HOLD
HOLD
RESET
HOLD CONTROL
SYSTEM CONTROL
SYSTEM CLOCK CONTROL
TIMING GENERATOR
CLOCK GENERATOR
INTERRUPT CONTROL
INTERVAL TIMER
WATCH DOG TIMER
REMOCON
12BIT TIMER COUNTER
8BIT SIRIAL INTERFACE
INSTRUCTION RESISTOR/DECORDER
18BIT D/A CONVERTER PWM OUTPUT
X IN
X OUT
X701
4.19MHz
CN701
CE
DI
CLOCK
DO
TUNER BOARD
CNJ1
(1 – 4)
CN702
TUNED
STEREO
+5V
RESET
+13V
TUNER BOARD
CNJ1
(5 – 10)
+5V
CN703
MUTE
SIRCS OUT
VF
VF
VKK(-24V)
TUNER BOARD
CNJ2
I/O PORT
I/O PORT
I/O PORT
OUT PORT
OUT PORT
OUT PORT
TEST
STEREO IN
MUTE
SIRCS IN
SIRCS OUT
CE
DO
DI
CLOCK
RELAY OUT
POWER ON/OFF
TUNED
+5V
IC702 AIQ3020S
REMOTE SENSOR
STEREO IN
MUTE
SIRCS
Q703
SIRCS CONTROL
RESET
+13V
①
②
㉚
㉛
⑲
㉗
⑤
⑭
(55)
(59)
(60)
(63)
②
⑪
⑫
⑬
㉗
(36)
(43)
(54)
①
(64)
㉜
㉒
㉑
⑲
⑳
⑮
⑯
⑰
㉔
㉕
㉘
㉙
㉚
㉛
㉝
㉞
㉟
⑱
(40)
(39)
(41)
(42)
(44)
(45)
(46)
(47)
㉓
㉖
⑭
③
②
①
1
2
3
4
5
6
7
8
9
10
1
2
3
4
5
6

3-2. BLOCK DIAGRAM —TUNER BOARD—


【TUNER BOARD】 FM RF/IF MPX AM RF/IF DET
FM,ANT
300Ω or 75Ω
FE1
FM FRONT-END
ANT IN
RF AMP
MIX
IF OUT
LOSC
F,AMP
F OUT
VCC
+13V
VT
Q1, 2 (Q3,4 WG,IT)
IF,AMP
T21
FM DISCRI
+5V
VDD
IC21
LA851N
FM DET MPX
AM RF/IF DET
CF21 19KHZ
PILOT DET
TRIG
LED DRIVE
TUNED
STEREO
FM IF
FM DET
FM LEVEL DET
COMP
P,D
VCO
FF 38KHZ
FF 19KHZ ∠90°
FF 19KHZ ∠0°
AGC
TP1 (NULL)
ALC
MUTE
DECORDER
STEREO SW
AM,OSC
AM MIX
AM IF
AM DET
V REG
AM RF
IF BUFFER
AM,ANT
FE62
LW RF BLOCK
L1
L2
RF
OSC
Q64 LW SWITCH
Q63 LW SWITCH
Q65 MW SWITCH
FE61
MW RF BLOCK
FM TUNED
CFT21
AM IFT
AM TUNED
Q26 MUTE
FM ST SEPARATION
L
R
GND
Q61 MW SWITCH
Q62 MW SWITCH
Q66 LW/MW SWITCH
LW: HI
MW: LO
Q23,24
VCO SW
Q22
AUDIO AMP
LPF
Q21
CNJ4
RCH
LCH
Q81,82
FM B+ SW
AM V,T
FM V,T
Q83,84
LPF
Q85,86
LW V,T
FM FOSC
1/2
SWALLOW COUNTER 1/16,1/10 BIT
12BIT PROGRAMMABLE DIVIDER
PHASE DETECTOR CHARGE PUMP
REF DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
IC81
LC7218 PLL
XT81
7.2MHZ
CNJ3
MUTE
+13V
+5V
RESET
SIRCS
VF
-24V
CNP(FOR TA)
CNJ1
CE
DI
CLOCK
DO
TUNED
STEREO
CNJ2
PANEL BOARD CN701
PANEL BOARD CN702
PANEL BOARD CN703

3-3. PRINTED WIRING BOARD —PANEL BOARD—

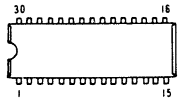

1
2
3
4
5
6
7
8
9
10
A
B
C
D
CB701-704
N
3 2 1
【PANEL BOARD】
C TUNER BOARD CNJ2
B TUNER BOARD CNJ1(5-10)
A TUNER BOARD CNJ1(1-4)
CN703
CN701
CN702
RED
BLU
D722
RB701
TIMER/ TUNER
S718
S719
L703
C707
R719
R718
R727
D713
BAND
S715
S713
MEMORY/NEXT
S705
S704
S703
S702
S701
S714
SHIFT
S710
S709
S708
S707
S706
C710
C701
D724
D712
D721
R701
R702
R703
R704
R705
R708
C704
C709
D723
L701
L702
Q701
Q702
Q703
S712
S716
PRESET/ TUNING
R721
R720
S711
S717
TIME/ FREQUNCY
IC702
C702
CB704
CB703
CB702
CB701
C706
X701
C708
D711
D710
L704
FL701
C705
AEP UK WG IT
IC701
R707
R706
R712
C703
R724
R725
R726
D716
D701
D703
D706
D707
*A
*B
R722
R723
D715
D714
D720
D705
D709
D708
IT Model
S721
TIMER CONTROL
S722
TIMER SET
R711
R710
R709
R717
R716
S723
SLEEP
R715
R714
R713
D719
D717
D718
S720
CLOCK
SONY
RB701
5 1
S712
MEMORY/ SCAN
S711
STEREO/ MUTING

• Semiconductor Location

Ref. No.	Location
D701	C-8
D703	B-9
D705	B-9
D707	B-9
D708	B-9
D709	B-9
D710	B-9
D711	B-8
D712	C-5
D713	C-3
D714	B-10
D715	B-9
D716	C-8
D717	D-9
D718	C-8
D719	C-8
D720	B-9
D721	C-5
D722	C-2
D723	B-6
D724	C-4
IC701	C-7
Q701	C-5
Q702	C-5

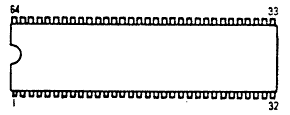
3-4. SEMICONDUCTOR LEAD LAYOUTS

LA1851N



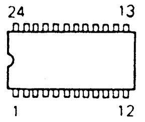
(Top view)

TMP47C670N



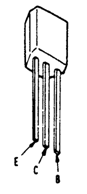
(Top view)

LC7218

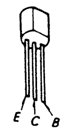


(Top view)

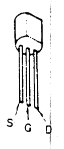
DTA114ES
DTC114ES
DTC144ES
2SA1317
2SC2669
2SC3330S



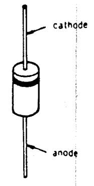
2SC3112B



2SK246-GR3



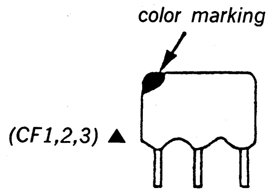
US1060M


cathode
anode

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.

Note on Ceramic Filter (CF1,2,3) ▲Replacement.

This set employs three ceramic filters (CF1,2,3) ▲ which should have the same color marking to identify their center frequency. Therefore FM IF offset adjustment by D706 ,D707 mounted is necessary to match the center frequency of the ceramic filters used with FM intermediate frequency.


color marking
(CF1,2,3) ▲

○ : Mounted
× : not Mounted

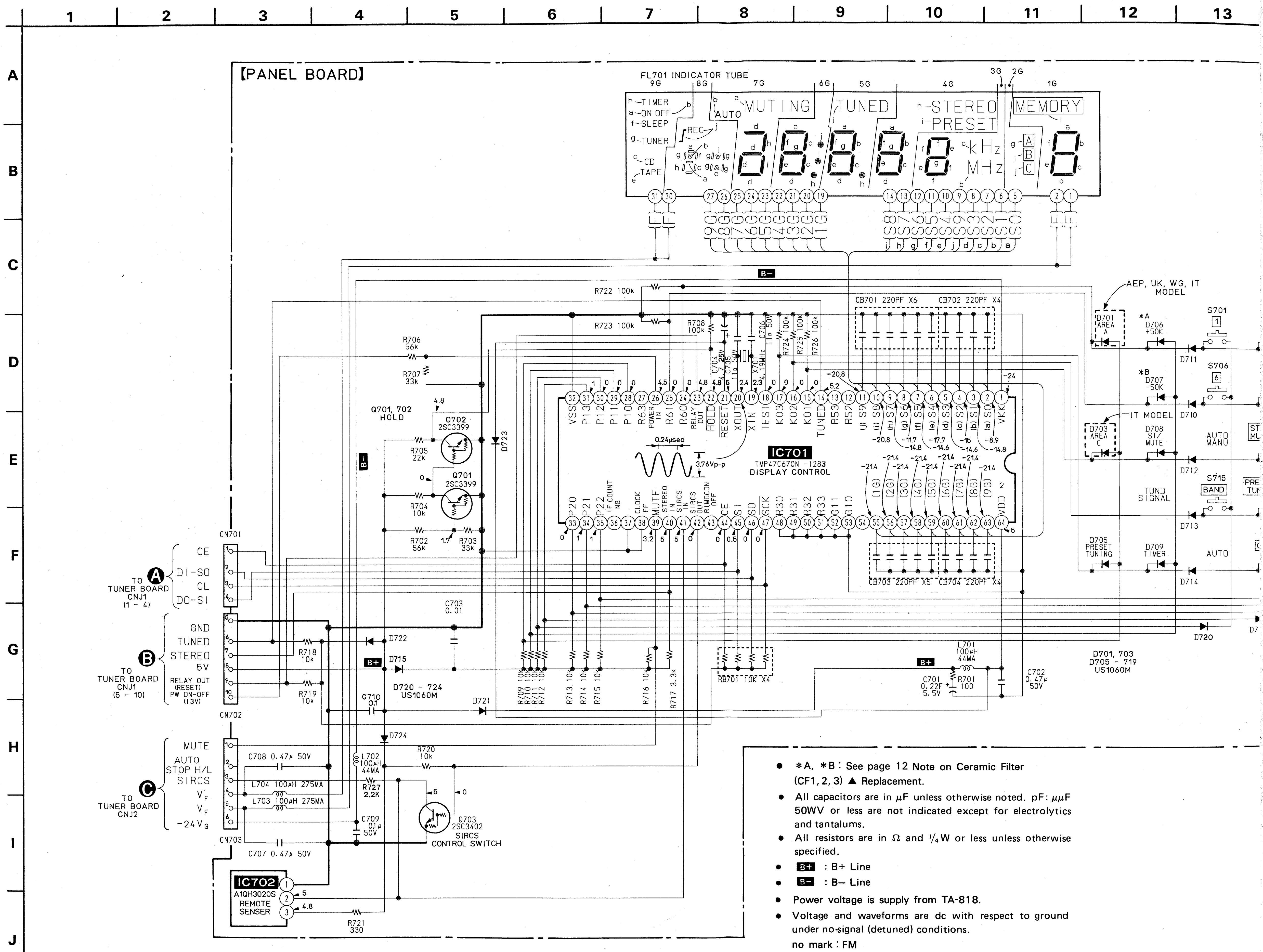
Ceramic filter		Mount		FM intermediate fequency (MHz)
Color mark	Center fre-quency (MHz)	*A D706	*B D707	
White	10.750	×	○	10.750
Red	10.700	×	×	10.700
Black	10.650	○	×	10.650

FM intermediate frequency is determined by the three types as shown above. Ceramic filters of same center frequency,i.e., of same color coding should be used for CF 1, CF2, and CF3.

When replacing the ceramic filters, perform the FM Discriminator Adjustment.

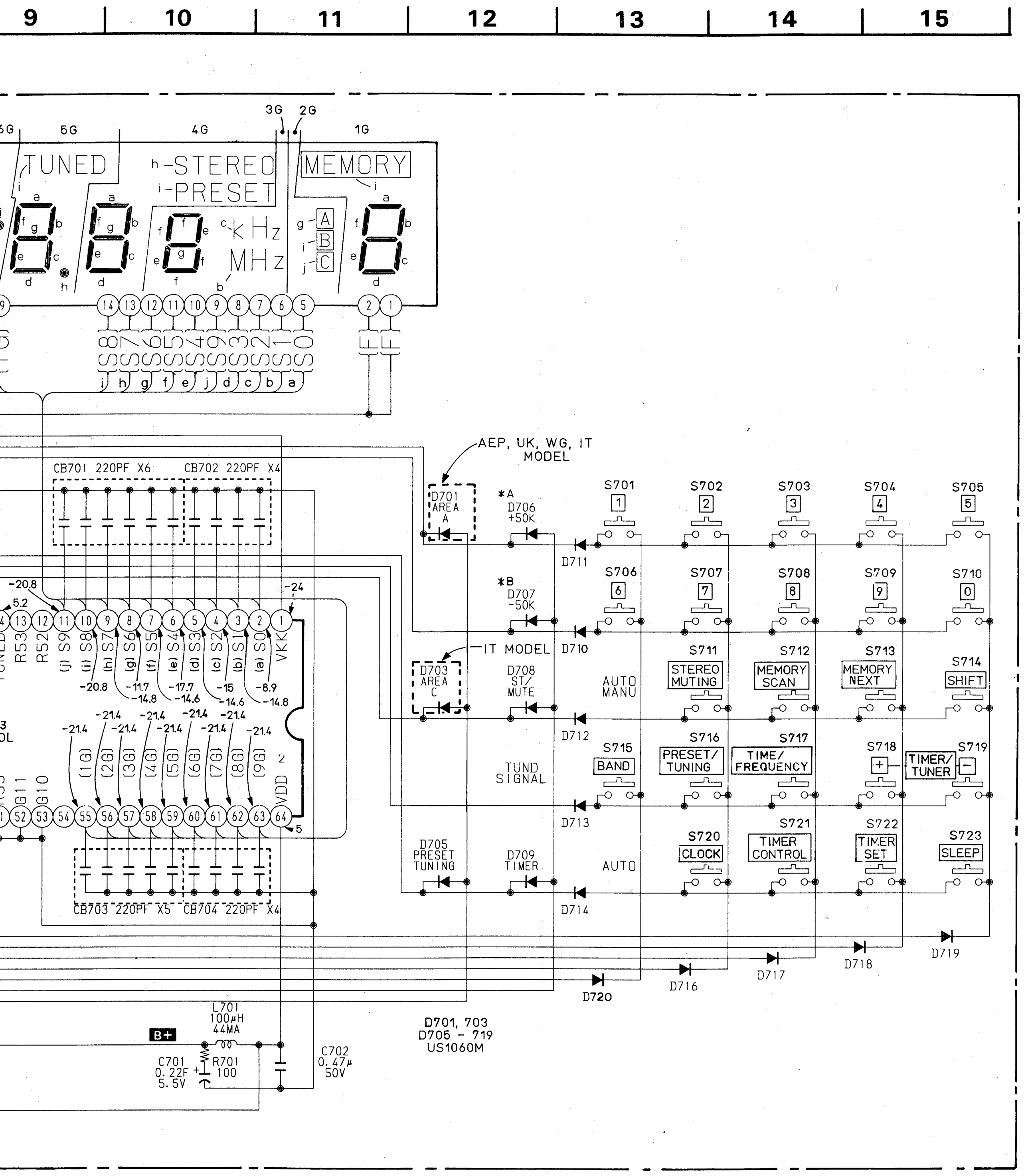
▲: US, Canadian, AEP, UK
WG, IT Model

3-5. SCHEMATIC DIAGRAM —PANEL BOARD—



1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
【PANEL BOARD】
FL701 INDICATOR TUBE
TIMER
ON OFF
SLEEP
TUNER
CD
TAPE
AUTO
MUTING
REC
TUNED
STEREO
PRESET
MEMORY
kHz
MHz
B−
B+
R722 100k
R723 100k
R708 100k
R706 56k
R707 33k
CB701 220PF X6
CB702 220PF X4
CB703 220PF X5
CB704 220PF X4
Q701, 702 HOLD
Q702 2SC3399
Q701 2SC3399
R705 22k
R704 10k
R702 56k
R703 33k
D723
X701 4.19MHz
IC701
TMP47C670N -1283
DISPLAY CONTROL
0.24μsec
3.76Vp-p
CN701
TO TUNER BOARD CNJ1 (1 - 4)
CE
DI-SO
CL
DO-SI
TO TUNER BOARD CNJ1 (5 - 10)
GND
TUNED
STEREO
5V
RELAY OUT (RESET)
PW ON-OFF (13V)
CN702
TO TUNER BOARD CNJ2
MUTE
AUTO STOP H/L
SIRCS
V_F
V_F
-24V_G
CN703
R718 10k
R719 10k
D722
D715
D720 - 724 US1060M
D721
D724
C703 0.01
C710 0.1
C708 0.47μ 50V
L704 100μH 275MA
L703 100μH 275MA
C707 0.47μ 50V
L702 100μH 44MA
R727 2.2K
C709 0.1μ 50V
R720 10k
Q703 2SC3402
SIRCS CONTROL SWITCH
IC702
A1QH3020S
REMOTE SENSER
R721 330
R709 10k
R710 10k
R711 10k
R712 10k
R713 10k
R714 10k
R715 10k
R716 10k
R717 3.3k
RB701 10K X4
L701 100μH 44MA
C701 0.22F 5.5V
R701 100
C702 0.47μ 50V
AEP, UK, WG, IT MODEL
D701 AREA A
D706 +50K
D707 -50K
IT MODEL
D703 AREA C
D708 ST/MUTE
D705 PRESET TUNING
D709 TIMER
TUND SIGNAL
S701
S706
S715 BAND
AUTO MANU
AUTO
D710
D711
D712
D713
D714
D720
D701, 703
D705 - 719
US1060M

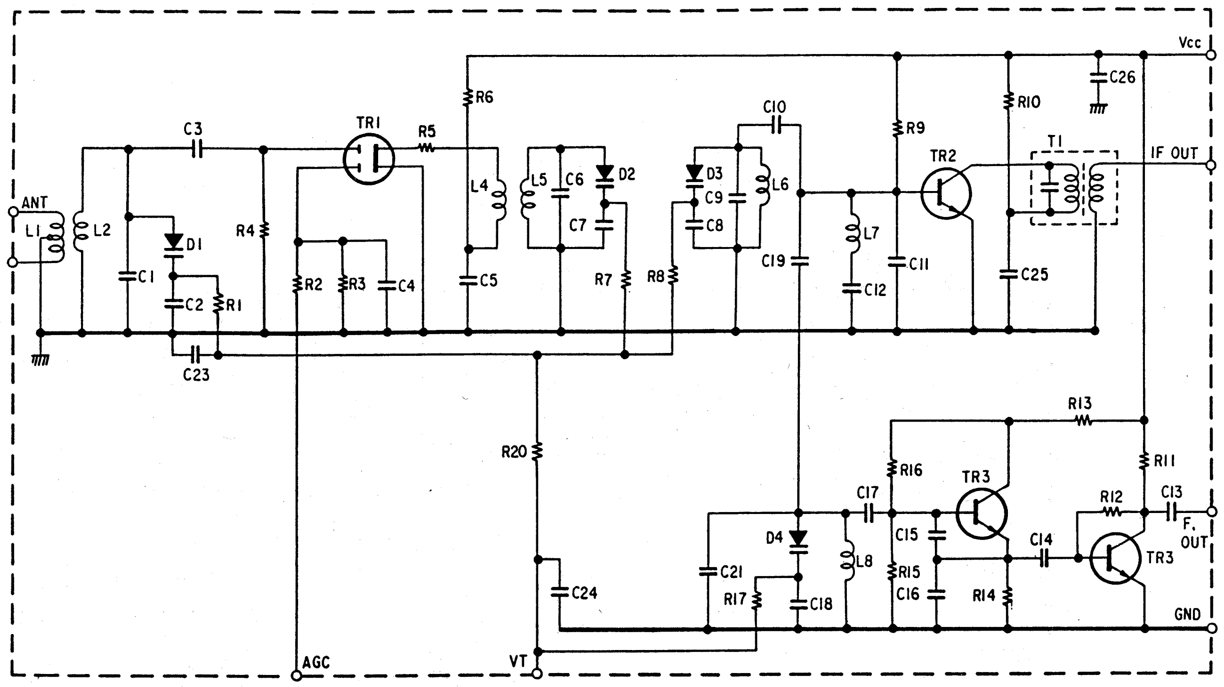
- ＊A, ＊B : See page 12 Note on Ceramic Filter (CF1, 2, 3) ▲ Replacement.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- **B+** : B+ Line
- **B−** : B– Line
- Power voltage is supply from TA-818.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.


9
10
11
12
13
14
15
3G 2G
5G
4G
1G
TUNED
STEREO
PRESET
MEMORY
kHz
MHz
A
B
C
CB701 220PF X6
CB702 220PF X4
AEP, UK, WG, IT MODEL
D701 AREA A
*A D706 +50K
*B D707 -50K
IT MODEL
D703 AREA C
D708 ST/ MUTE
D705 PRESET TUNING
D709 TIMER
S701 1
S702 2
S703 3
S704 4
S705 5
S706 6
S707 7
S708 8
S709 9
S710 0
AUTO MANU
S711 STEREO MUTING
S712 MEMORY SCAN
S713 MEMORY NEXT
S714 SHIFT
TUND SIGNAL
S715 BAND
S716 PRESET/ TUNING
S717 TIME/ FREQUENCY
S718 +
S719 TIMER/ TUNER −
AUTO
S720 CLOCK
S721 TIMER CONTROL
S722 TIMER SET
S723 SLEEP
D710
D711
D712
D713
D714
D716
D717
D718
D719
D720
CB703 220PF X5
CB704 220PF X4
L701 100μH 44MA
B+
C701 0.22F 5.5V
R701 100
C702 0.47μ 50V
D701, 703 D705 - 719 US1060M
-20.8
5.2
-24
VDD

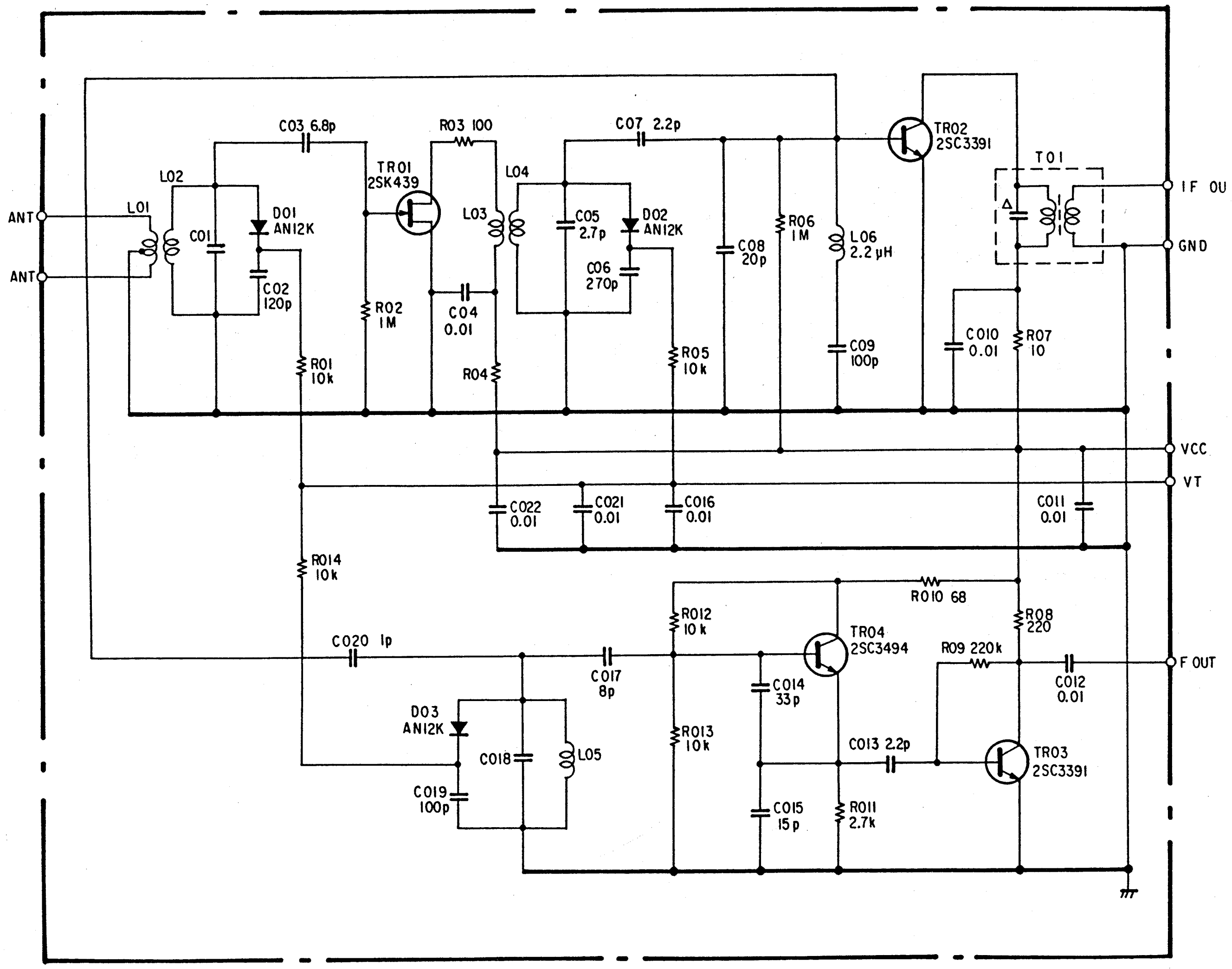
*B : See page 12 Note on Ceramic Filter
2, 3) ▲ Replacement.
pacitors are in μF unless otherwise noted. pF: μμF
' or less are not indicated except for electrolytics
ntalums.
esistors are in Ω and 1/4W or less unless otherwise
ied.
: B+ Line
: B– Line
' voltage is supply from TA-818.
e and waveforms are dc with respect to ground
no-signal (detuned) conditions.
rk : FM
es are taken with a VOM (Input impedance 10MΩ).
e variations may be noted due to normal produc-
lerances.

3-6. FM FRONT-END SCHEMATIC DIAGRAMS

FE1 (WG, IT Model)

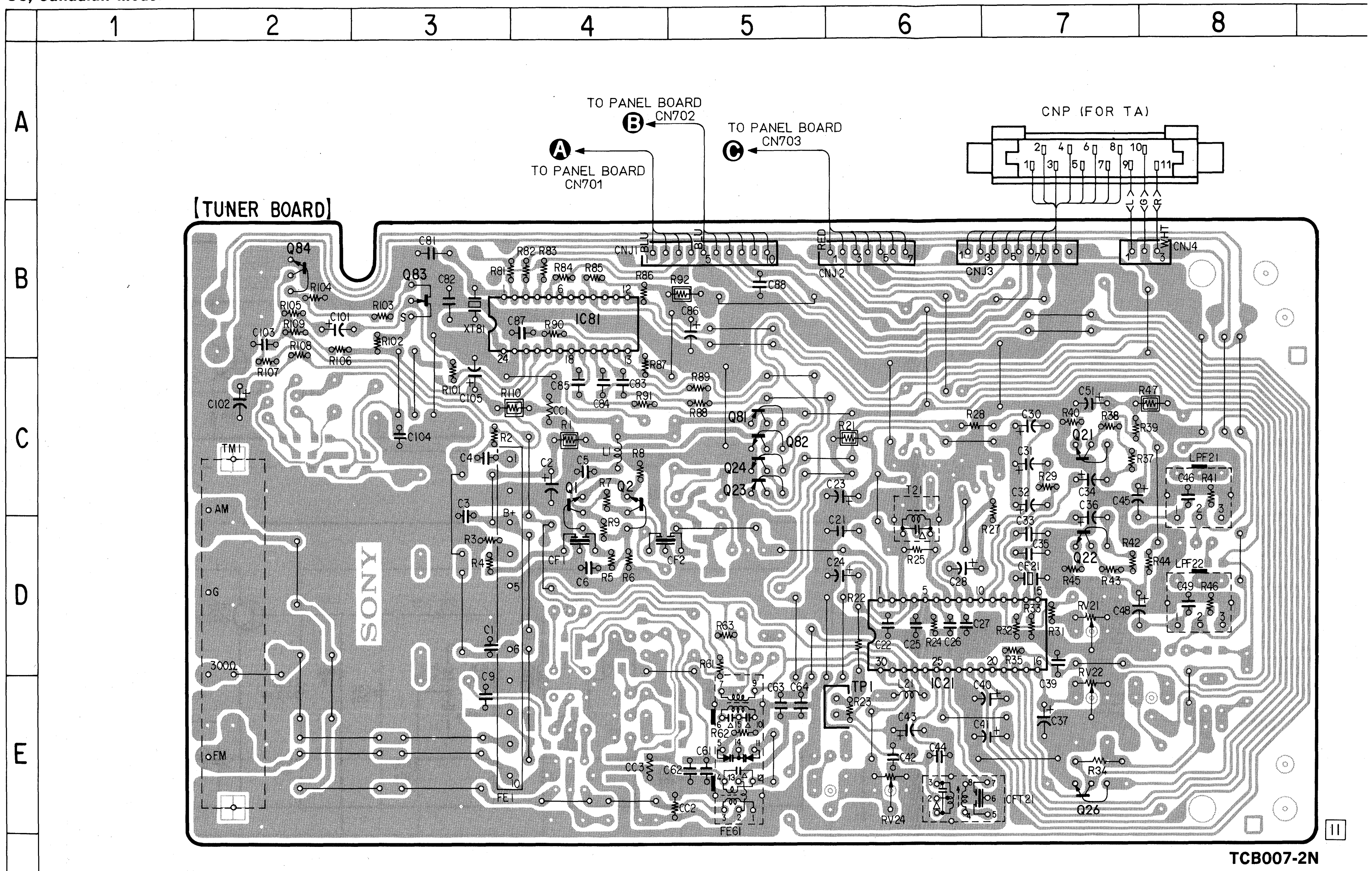

Vcc
C26
R10
R6
C10
C3
TR1
R5
R9
TR2
T1
IF OUT
ANT
L1
L2
D1
R4
L4
L5
C6
D2
D3
C9
C8
L6
C7
L7
C1
C2
R1
R2
R3
C4
C5
R7
R8
C19
C11
C12
C25
C23
R13
R20
R16
TR3
R11
C17
R12
C13
F. OUT
D4
C15
C14
TR3
L8
C21
R15
C16
R14
C24
R17
C18
GND
AGC
VT

FE1 (US, Canadian, AEP, UK Model)


ANT
ANT
L01
L02
C01
D01 AN12K
C02 120p
C03 6.8p
TR01 2SK439
R03 100
L04
L03
C05 2.7p
D02 AN12K
C06 270p
C04 0.01
R02 1M
R01 10k
R04
R05 10k
C07 2.2p
C08 20p
R06 1M
L06 2.2μH
C09 100p
TR02 2SC3391
T01
IF OU
GND
C010 0.01
R07 10
VCC
VT
C022 0.01
C021 0.01
C016 0.01
C011 0.01
R014 10k
R012 10k
R010 68
R08 220
TR04 2SC3494
R09 220k
C020 1p
C017 8p
C014 33p
C012 0.01
F OUT
D03 AN12K
C018
L05
C019 100p
R013 10k
C013 2.2p
TR03 2SC3391
C015 15p
R011 2.7k

3-7. PRINTED WIRING BOARDS —TUNER BOARD—

US, Canadian Model

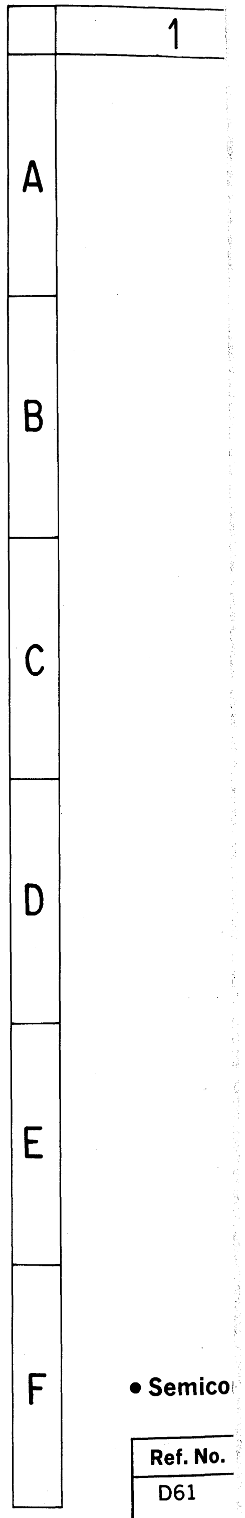

1
2
3
4
5
6
7
8
A
B
C
D
E
TO PANEL BOARD CN702
TO PANEL BOARD CN701
TO PANEL BOARD CN703
CNP (FOR TA)
[TUNER BOARD]
CNJ1
CNJ2
CNJ3
CNJ4
BLU
RED
WHT
IC81
IC21
Q84
Q83
Q81
Q82
Q24
Q23
Q1
Q2
Q21
Q22
Q26
XT81
T21
TP1
LPF21
LPF22
CF1
CF2
CF21
CFT21
FE1
FE61
RV21
RV22
RV24
TM1
AM
G
300Ω
FM
B+
SONY
TCB007-2N

• Semiconductor Location

Ref. No.	Location
IC21	D-6
IC81	B-4
Q1	C-4
Q2	C-4
Q21	C-7
Q22	D-7
Q23	C-5
Q24	C-5
Q26	E-7
Q81	C-5
Q82	C-5
Q83	B-3
Q84	B-2

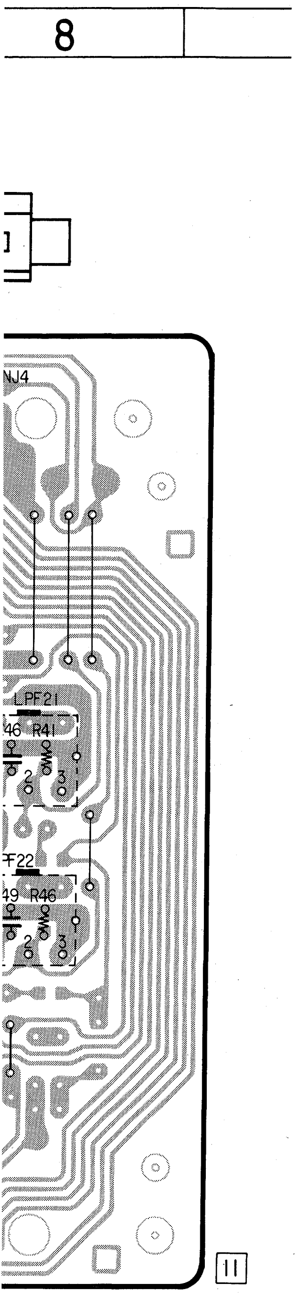
- ○—— : parts extracted from the component side.
- [⁝]- indicates side identified with part number.

AEP, UK, WG, IT



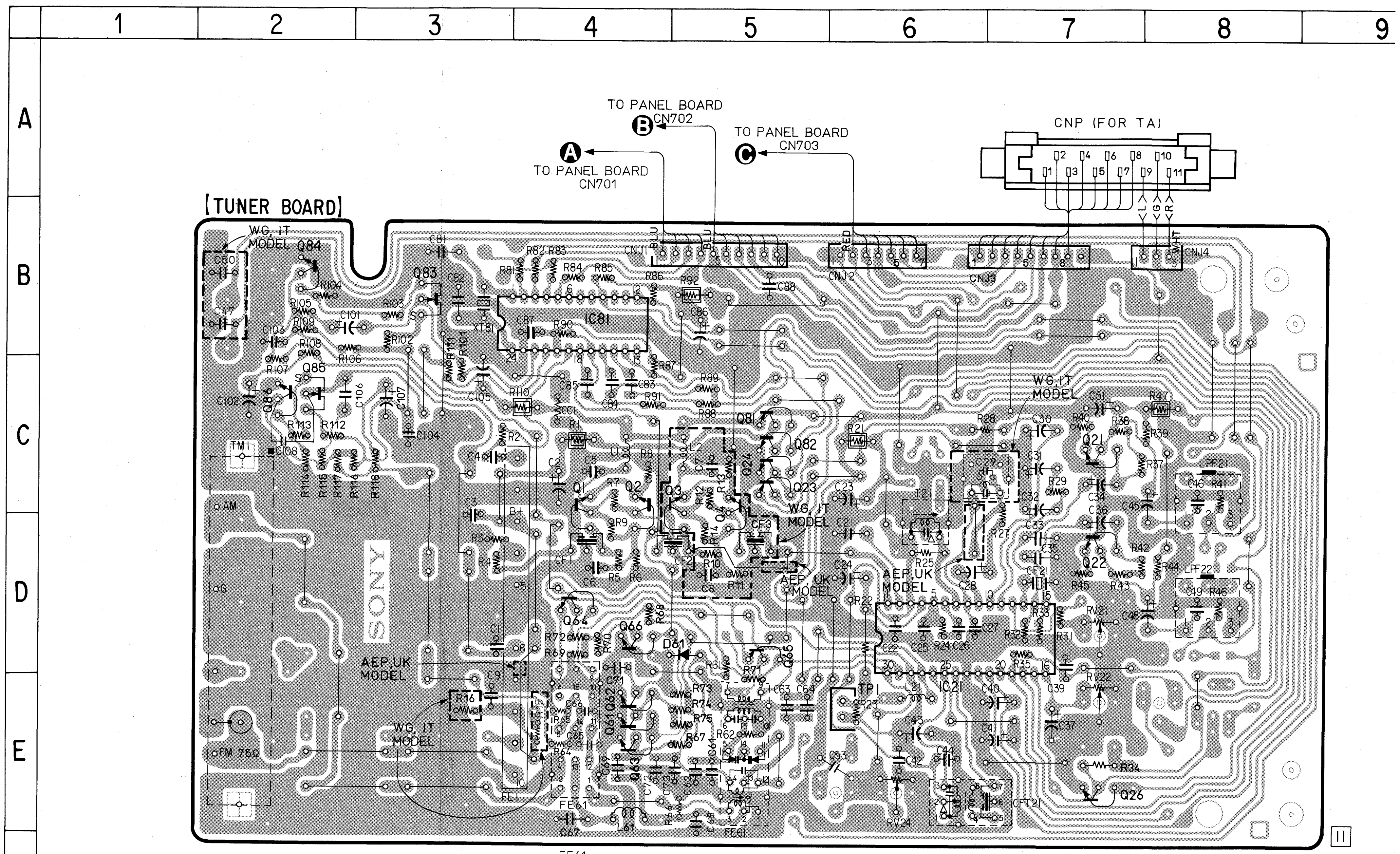
• Semico

Ref. No.
D61
IC21
IC81
Q1
Q2
Q3
Q4
Q21
Q22
Q23
Q24

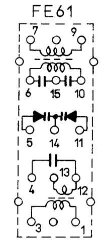

8
CNJ4
LPF21
R41
R46

TCB007-2N

AEP, UK, WG, IT Model


1
2
3
4
5
6
7
8
9
A
B
C
D
E
TO PANEL BOARD CN702
TO PANEL BOARD CN701
TO PANEL BOARD CN703
CNP (FOR TA)
[TUNER BOARD]
WG, IT MODEL
AEP, UK MODEL
CNJ1
CNJ2
CNJ3
CNJ4
IC81
IC21
SONY
AM
G
FM 75Ω
TP1
BLU
RED
WHT
L
G
R

TCB007-3H/3I



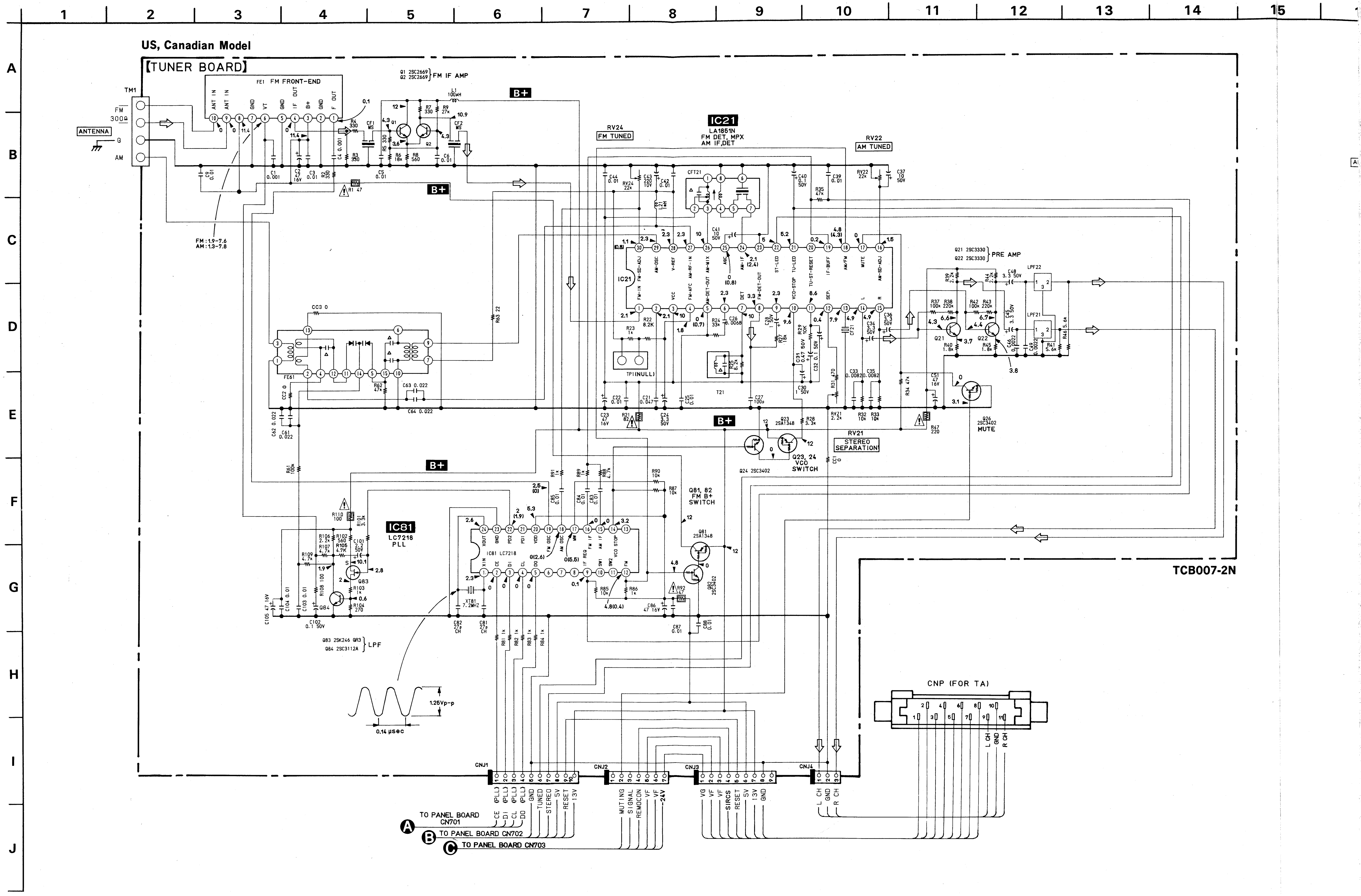
F

• Semiconductor Location

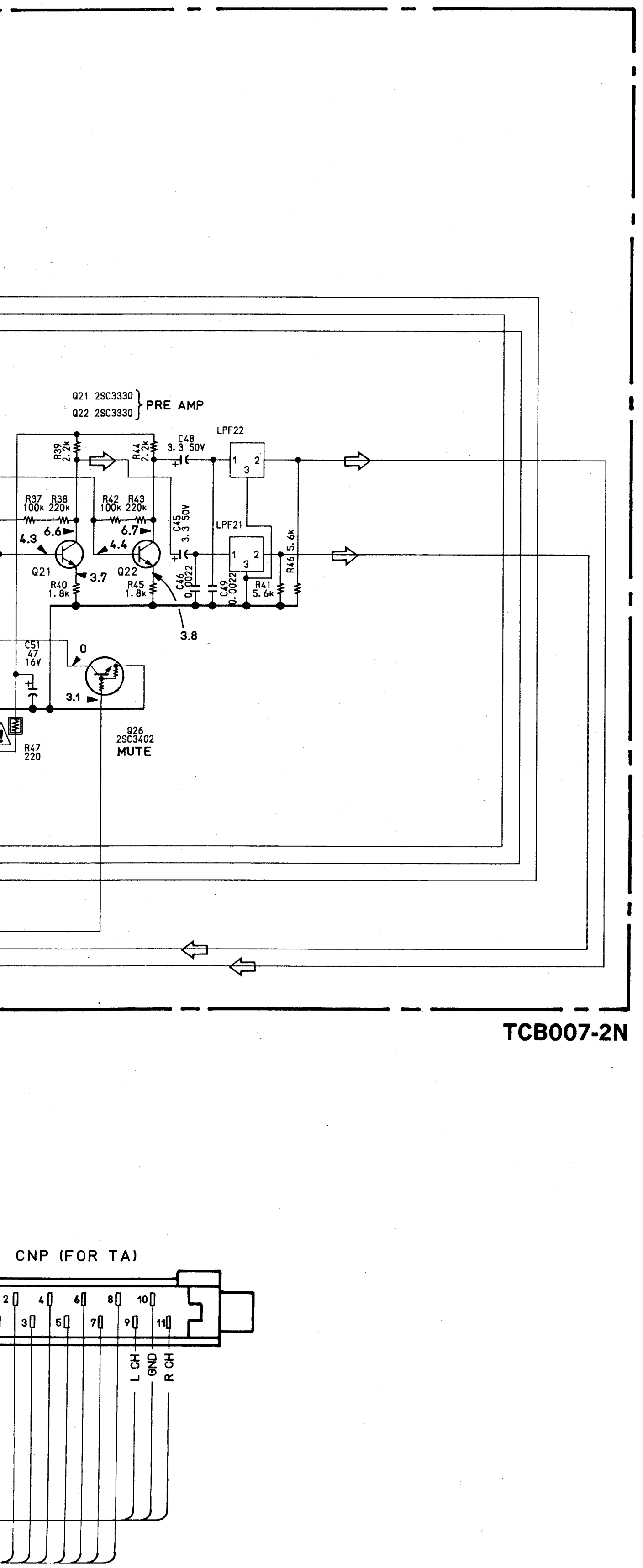
Ref. No.	Location	Ref. No.	Location
D61	D-5	Q26	E-7
		Q61	E-4
IC21	D-6	Q62	E-4
IC81	B-4	Q63	E-4
		Q64	D-4
Q1	C-4	Q65	D-5
Q2	C-4	Q81	C-5
Q3	C-4	Q82	C-5
Q4	C-5	Q83	B-3
Q21	C-7	Q84	B-2
Q22	D-7	Q85	C-2
Q23	C-5	Q86	C-2
Q24	C-5		

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- [ ]← indicates side identified with part number.
- WG : West Germany model
- IT : Italian model

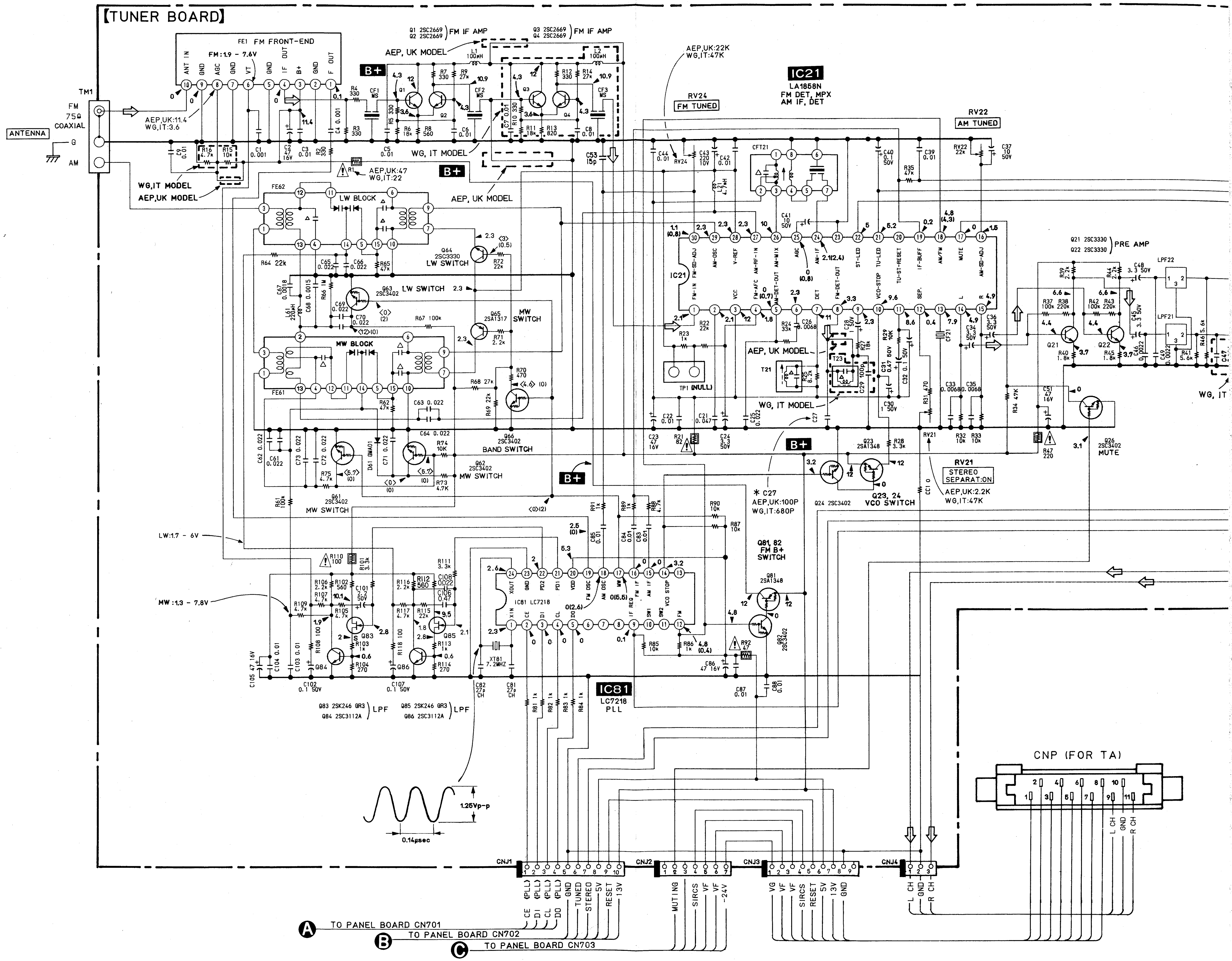
3-8. SCHEMATIC DIAGRAMS —TUNER BOARD—

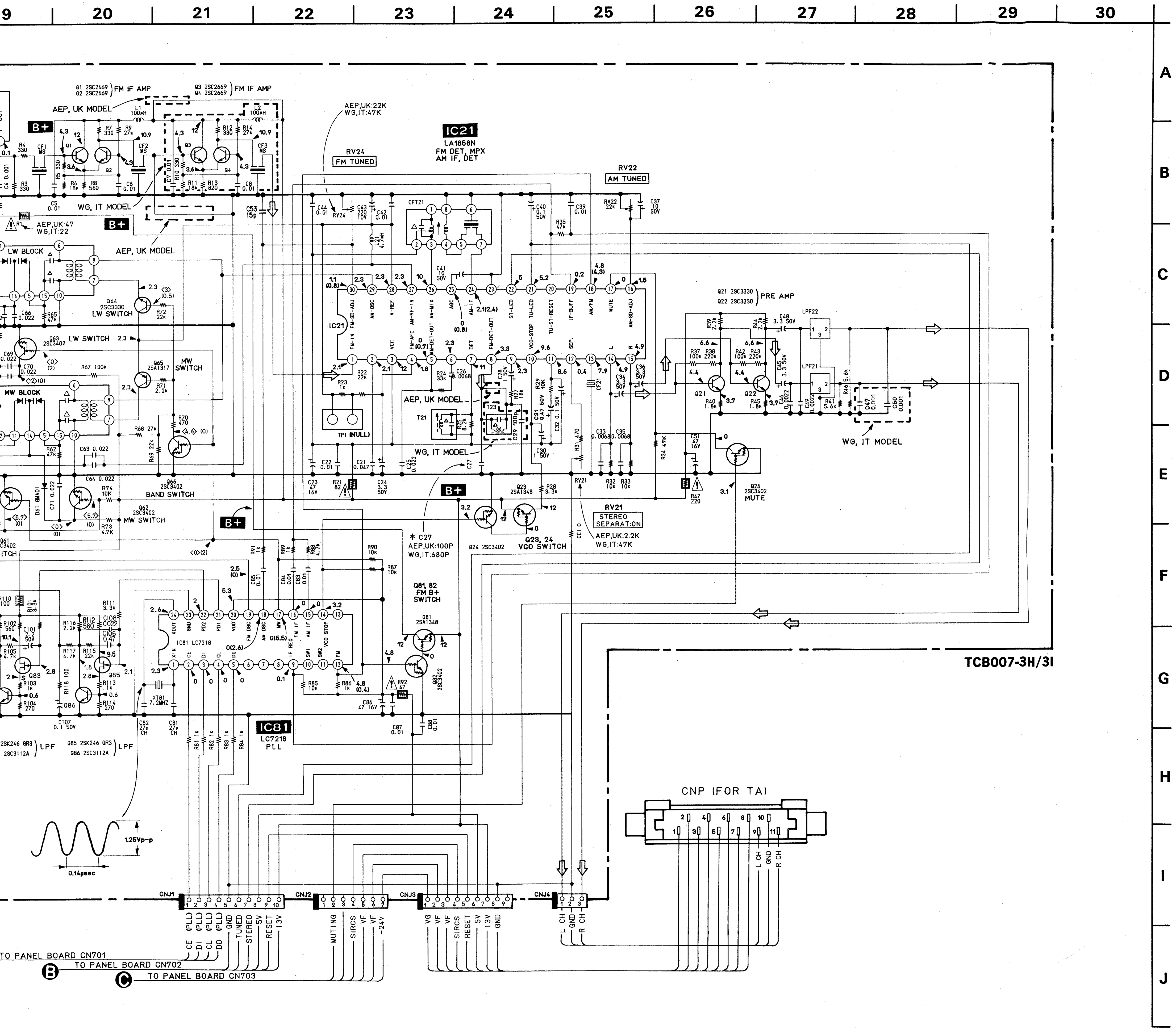

US, Canadian Model
【TUNER BOARD】
TM1
ANTENNA
FM 300Ω
G
AM
FE1 FM FRONT-END
ANT IN
GND
VT
IF OUT
B+
F OUT
Q1 2SC2669
Q2 2SC2669 } FM IF AMP
B+
FM:1.9-7.6
AM:1.3-7.8
FE61
RV24 FM TUNED
IC21
LA1851N
FM DET, MPX
AM IF,DET
RV22 AM TUNED
CFT21
TP1(NULL)
T21
Q21 2SC3330
Q22 2SC3330 } PRE AMP
LPF22
LPF21
Q23 2SA1348
Q26 2SC3402
MUTE
RV21 STEREO SEPARATION
Q23, 24 VCO SWITCH
Q24 2SC3402
Q81, 82 FM B+ SWITCH
Q81 2SA1348
Q82 2SC3402
IC81
LC7218
PLL
Q83 2SK246 GR3
Q84 2SC3112A } LPF
XT81 7.2MHZ
1.25Vp-p
0.14 μsec
TCB007-2N
CNP (FOR TA)
L CH
GND
R CH
CNJ1
CNJ2
CNJ3
CNJ4
CE (PLL)
DI (PLL)
CL (PLL)
DO (PLL)
GND
TUNED
STEREO
5V
RESET
13V
MUTING
SIGNAL
REMOCON
VF
VF
-24V
VG
VF
VF
SIRCS
RESET
5V
13V
GND
L CH
GND
R CH
A TO PANEL BOARD CN701
B TO PANEL BOARD CN702
C TO PANEL BOARD CN703

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27


Q21 2SC3330
Q22 2SC3330
PRE AMP
LPF22
LPF21
Q21
Q22
Q26 2SC3402 MUTE
TCB007-2N
CNP (FOR TA)
L CH
GND
R CH

AEP, UK, WG, IT Model


【TUNER BOARD】
FE1 FM FRONT-END
FM:1.9 - 7.6V
ANT IN
GND
AGC
GND
VT
GND
IF OUT
B+
GND
F OUT
TM1
FM 75Ω COAXIAL
ANTENNA
G
AM
AEP,UK:11.4
WG,IT:3.6
WG,IT MODEL
AEP,UK MODEL
Q1 2SC2669
Q2 2SC2669
FM IF AMP
Q3 2SC2669
Q4 2SC2669
FM IF AMP
AEP, UK MODEL
WG, IT MODEL
B+
AEP,UK:47
WG,IT:22
FE62
LW BLOCK
Q64 2SC3330 LW SWITCH
Q63 2SC3402 LW SWITCH
Q65 2SA1317 MW SWITCH
FE61
MW BLOCK
Q66 2SC3402 BAND SWITCH
Q62 2SC3402 MW SWITCH
Q61 2SC3402 MW SWITCH
LW:1.7 - 6V
MW:1.3 - 7.8V
Q83 2SK246 GR3
Q84 2SC3112A
LPF
Q85 2SK246 GR3
Q86 2SC3112A
LPF
1.26Vp-p
0.14μsec
AEP,UK:22K
WG,IT:47K
RV24 FM TUNED
IC21
LA1858N
FM DET, MPX
AM IF, DET
RV22 AM TUNED
CFT21
FM-IN
FM-SD-ADJ
AM-OSC
V-REF
AM-RF-IN
AM-MIX
AGC
AM-IF
ST-LED
TU-LED
TU-ST-RESET
IF-BUFF
AM/FM
MUTE
AM-SD-ADJ
FM-AFC
AM-DET-OUT
VCC
DET
FM-DET-OUT
VCO-STOP
SEP.
L
R
TP1 (NULL)
AEP, UK MODEL
T21
T23
WG, IT MODEL
Q23 2SA1348
Q24 2SC3402
Q23, 24 VCO SWITCH
RV21 STEREO SEPARAT:ON
AEP,UK:2.2K
WG,IT:47K
* C27
AEP,UK:100P
WG,IT:680P
Q81, 82 FM B+ SWITCH
Q81 2SA1348
Q82 2SC3402
IC81 LC7218
IC81 LC7218 PLL
XT81 7.2MHZ
XOUT
XIN
GND
PD2
PD1
VDD
FM OSC
AM OSC
IF REQ
FM IF
AM IF
VCO STOP
SW1
SW2
FM
CE
DI
CL
DO
CNJ1
(PLL) CE
(PLL) DI
(PLL) CL
(PLL) DO
GND
TUNED
STEREO
5V
RESET
13V
CNJ2
MUTING
SIRCS
VF
VF
-24V
CNJ3
VG
VF
VF
SIRCS
RESET
5V
13V
GND
CNJ4
L CH
GND
R CH
Ⓐ TO PANEL BOARD CN701
Ⓑ TO PANEL BOARD CN702
Ⓒ TO PANEL BOARD CN703
Q21 2SC3330
Q22 2SC3330
PRE AMP
LPF22
LPF21
Q26 2SC3402 MUTE
WG, IT
CNP (FOR TA)
L CH
GND
R CH


9
20
21
22
23
24
25
26
27
28
29
30
A
B
C
D
E
F
G
H
I
J
Q1 2SC2669
Q2 2SC2669
FM IF AMP
Q3 2SC2669
Q4 2SC2669
FM IF AMP
AEP, UK MODEL
WG, IT MODEL
AEP,UK:47
WG,IT:22
AEP,UK:22K
WG,IT:47K
B+
LW BLOCK
MW BLOCK
Q64 2SC3330 LW SWITCH
Q63 2SC3402 LW SWITCH
Q65 2SA1317 MW SWITCH
Q66 2SC3402 BAND SWITCH
Q62 2SC3402 MW SWITCH
RV24
FM TUNED
IC21
LA1858N
FM DET, MPX
AM IF, DET
RV22
AM TUNED
CFT21
TP1 (NULL)
T21
T23
Q21 2SC3330
Q22 2SC3330
PRE AMP
LPF22
LPF21
WG, IT MODEL
Q26 2SC3402 MUTE
Q23 2SA1348
Q24 2SC3402
Q23, 24 VCO SWITCH
RV21
STEREO SEPARAT:ON
AEP,UK:2.2K
WG,IT:47K
* C27
AEP,UK:100P
WG,IT:680P
Q81, 82 FM B+ SWITCH
Q81 2SA1348
Q82 2SC3402
IC81 LC7218
IC81
LC7218
PLL
XT81 7.2MHZ
Q83 2SK246 GR3
Q84 2SC3112A
LPF
Q85 2SK246 GR3
Q86 2SC3112A
LPF
1.26Vp-p
0.14μsec
TCB007-3H/3I
CNP (FOR TA)
L CH
GND
R CH
CNJ1
CNJ2
CNJ3
CNJ4
CE (PLL)
DI (PLL)
CL (PLL)
DO (PLL)
GND
TUNED
STEREO
5V
RESET
13V
MUTING
SIRCS
VF
VF
-24V
VG
VF
VF
SIRCS
RESET
5V
13V
GND
L CH
GND
R CH
TO PANEL BOARD CN701
B
TO PANEL BOARD CN702
C
TO PANEL BOARD CN703

- ∗A, ∗B : See page 12 Note on Ceramic Filter (CF1, 2, 3) ▲ Replacement.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- B+ : B+ Line
- ☐ : adjustment for repair.
- Power voltage is supply from TA-818.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.

  no mark : FM
  ( ) : AM
  〈 〉 : LW
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.

  ⇨ : FM
- WG : West Germany model
- IT : Italian model

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

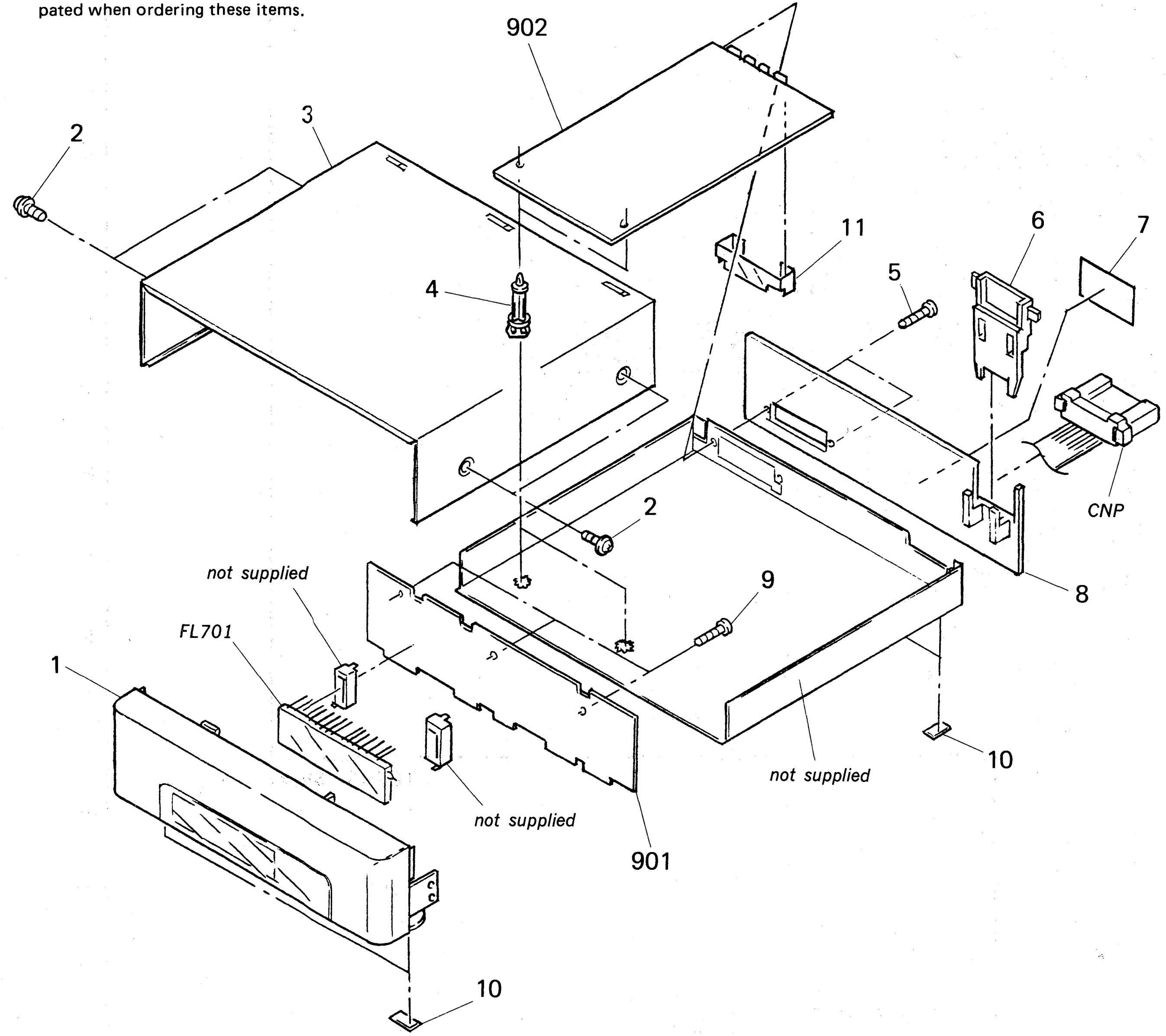
SECTION 4
EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:

  (RED) ...KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts' Color

- WG: West Germany model
- IT : Italian model



No.	Part No.	Description	Remarks
1	X-4930-307-1	PANEL ASSY, FRONT	
2	3-704-366-01	SCREW (CASE) (M3X8)	
3	4-930-347-21	CASE	
4	*4-914-008-01	HOLDER, PCB	
5	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
6	4-930-344-01	HOLDER (CONNECTION CORD)	
7	*4-930-313-01	(AEP,UK)........LABEL, MODEL NUMBER (AE)	
	*4-930-314-01	(WG)............LABEL, MODEL NUMBER (AE4)	
	*4-930-315-01	(IT)............LABEL, MODEL NUMBER (IT)	
	*4-930-316-01	(US,Canadian)...LABEL, MODEL NUMBER (U/C)	
8	4-930-346-01	PANEL (ST), BACK	
9	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
10	4-930-336-01	FOOT (FELT)	
11	*4-924-988-11	PLATE (ST), GROUND	

No.	Part No.	Description	Remarks
901	*A-4333-327-A	(US,Canadian)...MOUNTED PCB, PANEL	
	*A-4333-328-A	(IT)............MOUNTED PCB, PANEL	
	*A-4333-329-A	(AEP,UK,WG).....MOUNTED PCB, PANEL	
902	*A-4303-186-A	(US, Canadian)...MOUNTED PCB, TUNER	
	*A-4303-187-A	(AEP,UK).........MOUNTED PCB, TUNER	
	*A-4303-188-A	(WG, IT).........MOUNTED PCB, TUNER	
CNP	1-574-636-11	CORD (WITH CONNECTOR)	
FL701	1-519-517-11	INDICATOR TUBE, FLUORESCENT	

SE
ELECTRIC

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPAC
MF

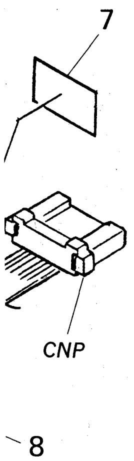
RESIS
- All
- F: r

COILS
- MM

SEMIC
In e
UA.
UPC
- WG:
- IT :

Ref.No.	Part No.	Description		
901	*A-4333-327-A	(US,Canadian)...MOUNTED PCB, PANEL		
	*A-4333-328-A	(IT)............MOUNTED PCB, PANEL		
	*A-4333-329-A	(AEP,UK,WG).....MOUNTED PCB, PANEL		
902	*A-4303-186-A	(US, Canadian)...MOUNTED PCB, TUNER		
	*A-4303-187-A	(AEP,UK).........MOUNTED PCB, TUNER		
	*A-4303-188-A	(WG, IT).........MOUNTED PCB, TUNER		
C1	1-162-294-31	CERAMIC CHIP 0.001MF	20%	25V
C2	1-124-477-11	CAP, ELECT 47MF	20%	16V
C3	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V
C4	1-162-294-31	CERAMIC CHIP 0.001MF	20%	25V
C5	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V
C6	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V
C7	1-163-059-00	(WG,IT)...CERAMIC MELF 0.01MF	20%	16V
C8	1-163-059-00	(WG,IT)...CERAMIC MELF 0.01MF	20%	16V
C9	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V
C21	1-101-006-00	CAP, CERAMIC 0.047MF F	20%	50V
C22	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V
C23	1-124-477-11	CAP, ELECT 47MF	20%	16V
C24	1-123-382-00	CAP, ELECT 3.3MF	20%	50V
C25	1-163-063-00	CERAMIC MELF 0.022MF		25V
C26	1-162-527-11	CERAMIC CHIP 0.0068MF	20%	12V
C27	1-162-516-11	(US,Canadian,AEP,UK) ...CERAMIC CHIP 100PF	10%	
C27	1-162-521-11	(WG,IT)...CERAMIC CHIP 680PF	20%	
C28	1-124-499-11	CAP, ELECT 1.0MF	20%	50V
C29	1-162-516-11	(WG,IT)...CERAMIC CHIP 100PF	10%	50V
C30	1-124-499-11	CAP, ELECT 1.0MF	20%	50V
C31	1-124-902-00	CAP, ELECT 0.47MF	20%	50V
C32	1-124-463-00	CAP, ELECT 0.1MF	20%	50V
C33	1-130-481-00	(AEP,UK,WG,IT)...CAP, PE TEREPHTHAL 0.0068MF	5%	50V
C33	1-130-482-00	(US,Canadian)....CAP, PE TEREPHTHAL 0.0082MF	5%	50V
C34	1-123-382-00	CAP, ELECT 3.3MF	20%	50V
C35	1-130-481-00	(AEP,UK,WG,IT)...CAP, PE TEREPHTHAL 0.0068MF	5%	50V
C35	1-130-482-00	(US,Canadian)....CAP, PE TEREPHTHAL 0.0082MF	5%	50V
C36	1-123-382-00	CAP, ELECT 3.3MF	20%	50V
C37	1-123-875-11	CAP, ELECT 10MF	20%	50V
C39	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V
C40	1-124-463-00	CAP, ELECT 0.1MF	20%	50V
C41	1-123-875-11	CAP, ELECT 10MF	20%	50V
C42	1-163-059-00	CERAMIC MELF 0.01MF	20%	16V
C43	1-126-176-11	CAP, ELECT 220MF	20%	10V

odel



Remarks

ANEL
ANEL
ANEL

TUNER
TUNER
TUNER

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...
- WG: West Germany model
- IT : Italian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
901	*A-4333-327-A	(US,Canadian)...MOUNTED PCB, PANEL
	*A-4333-328-A	(IT)...........MOUNTED PCB, PANEL
	*A-4333-329-A	(AEP,UK,WG).....MOUNTED PCB, PANEL
902	*A-4303-186-A	(US, Canadian)...MOUNTED PCB, TUNER
	*A-4303-187-A	(AEP,UK).........MOUNTED PCB, TUNER
	*A-4303-188-A	(WG, IT).........MOUNTED PCB, TUNER
C1	1-162-294-31	CERAMIC CHIP 0.001MF 20% 25V
C2	1-124-477-11	CAP, ELECT 47MF 20% 16V
C3	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C4	1-162-294-31	CERAMIC CHIP 0.001MF 20% 25V
C5	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C6	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C7	1-163-059-00	(WG,IT)...CERAMIC MELF 0.01MF 20% 16V
C8	1-163-059-00	(WG,IT)...CERAMIC MELF 0.01MF 20% 16V
C9	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C21	1-101-006-00	CAP, CERAMIC 0.047MF F 20% 50V
C22	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C23	1-124-477-11	CAP, ELECT 47MF 20% 16V
C24	1-123-382-00	CAP, ELECT 3.3MF 20% 50V
C25	1-163-063-00	CERAMIC MELF 0.022MF 25V
C26	1-162-527-11	CERAMIC CHIP 0.0068MF 20% 12V
C27	1-162-516-11	(US,Canadian,AEP,UK) ...CERAMIC CHIP 100PF 10% 50V
C27	1-162-521-11	(WG,IT)...CERAMIC CHIP 680PF 20% 50V
C28	1-124-499-11	CAP, ELECT 1.0MF 20% 50V
C29	1-162-516-11	(WG,IT)...CERAMIC CHIP 100PF 10% 50V
C30	1-124-499-11	CAP, ELECT 1.0MF 20% 50V
C31	1-124-902-00	CAP, ELECT 0.47MF 20% 50V
C32	1-124-463-00	CAP, ELECT 0.1MF 20% 50V
C33	1-130-481-00	(AEP,UK,WG,IT)...CAP, PE TEREPHTHALATE 0.0068MF 5% 50V
C33	1-130-482-00	(US,Canadian)....CAP, PE TEREPHTHALATE 0.0082MF 5% 50V
C34	1-123-382-00	CAP, ELECT 3.3MF 20% 50V
C35	1-130-481-00	(AEP,UK,WG,IT)...CAP, PE TEREPHTHALATE 0.0068MF 5% 50V
C35	1-130-482-00	(US,Canadian)....CAP, PE TEREPHTHALATE 0.0082MF 5% 50V
C36	1-123-382-00	CAP, ELECT 3.3MF 20% 50V
C37	1-123-875-11	CAP, ELECT 10MF 20% 50V
C39	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C40	1-124-463-00	CAP, ELECT 0.1MF 20% 50V
C41	1-123-875-11	CAP, ELECT 10MF 20% 50V
C42	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C43	1-126-176-11	CAP, ELECT 220MF 20% 10V
C44	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C45	1-123-382-00	CAP, ELECT 3.3MF 20% 50V
C46	1-162-524-11	CERAMIC CHIP 0.0022MF 20% 25V
C47	1-162-294-31	(WG,IT)...CERAMIC CHIP 0.001MF 20% 25V
C48	1-123-382-00	CAP, ELECT 3.3MF 20% 50V
C49	1-162-524-11	CERAMIC CHIP 0.0022MF 20% 25V
C50	1-162-294-31	(WG,IT)...CERAMIC CHIP 0.001MF 20% 25V
C51	1-124-477-11	CAP, ELECT 47MF 20% 16V
C53	1-102-951-00	(AEP,UK,WG,IT)...CERAMIC 15PF 5% 50V
C61	1-163-063-00	CERAMIC MELF 0.022MF 25V
C62	1-163-063-00	CERAMIC MELF 0.022MF 25V
C63	1-163-063-00	CERAMIC MELF 0.022MF 25V
C64	1-163-063-00	CERAMIC MELF 0.022MF 25V
C65	1-163-063-00	(AEP,UK,WG,IT)...CERAMIC MELF 0.022MF 25V
C66	1-163-063-00	(AEP,UK,WG,IT)...CERAMIC MELF 0.022MF 25V
C67	1-102-120-00	(AEP,UK,WG,IT)...CAP, CERAMIC 0.0018MF 10% 50V
C68	1-162-523-11	(AEP,UK,WG,IT)...CERAMIC CHIP 0.0015MF 20% 25V
C69	1-163-063-00	(AEP,UK,WG,IT)...CERAMIC MELF 0.022MF 25V
C70	1-163-063-00	(AEP,UK,WG,IT)...CERAMIC MELF 0.022MF 25V
C71	1-163-063-00	(AEP,UK,WG,IT)...CERAMIC MELF 0.022MF 25V
C72	1-163-063-00	(AEP,UK,WG,IT)...CERAMIC MELF 0.022MF 25V
C73	1-163-063-00	(AEP,UK,WG,IT)...CERAMIC MELF 0.022MF 25V
C81	1-102-961-00	CAP, CERAMIC 27PF 5% 50V
C82	1-102-961-00	CAP, CERAMIC 27PF 5% 50V
C83	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C84	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C85	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C86	1-124-477-11	CAP, ELECT 47MF 20% 16V
C87	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C88	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C101	1-124-925-11	CAP, ELECT 2.2MF 20% 50V
C102	1-124-463-00	CAP, ELECT 0.1MF 20% 50V
C103	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C104	1-163-059-00	CERAMIC MELF 0.01MF 20% 16V
C105	1-124-477-11	CAP, ELECT 47MF 20% 16V
C106	1-136-173-00	(AEP,UK,WG,IT)...CAP, METALIZED FILM 0.47MF 5% 50V
C107	1-124-463-00	(AEP,UK,WG,IT)...CAP, ELECT 0.1MF 20% 50V
C108	1-101-005-00	(AEP,UK,WG,IT)...CERAMIC 0.022MF 50V
C701	1-125-486-11	CAP,DOUBLE LAYERS 0.22F 5.5V
C702	1-136-173-00	FILM 0.47MF 5% 50V
C703	1-161-379-00	CERAMIC 0.01MF 20% 16V
C704	1-126-094-11	ELECT 4.7MF 20% 25V
C705	1-162-200-31	CERAMIC 11PF 5% 50V
C706	1-162-200-31	CERAMIC 11PF 5% 50V
C707	1-136-173-00	FILM 0.47MF 5% 50V
C708	1-136-173-00	FILM 0.47MF 5% 50V
C709	1-164-159-11	CERAMIC 0.1MF 50V
C710	1-164-159-11	CERAMIC 0.1MF 50V
CC1	1-249-366-11	CARBON MELF 0 5% 1/5W
CF1	1-567-389-41	FILTER, CERAMIC
CF2	1-567-389-41	FILTER, CERAMIC
CF3	1-567-389-41	(WG,IT)...FILTER, CERAMIC
CFT21	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)
CN701	*1-568-279-11	SOCKET, CONNECTOR 4P
CN702	*1-568-281-11	SOCKET, CONNECTOR 6P
CN703	*1-568-281-11	SOCKET, CONNECTOR 6P
D61	8-719-000-26	(AEP,UK,WG,IT)...DIODE US1060M
D701	8-719-000-26	(AEP,UK,WG,IT)...DIODE US1060M
D703	8-719-000-26	(IT)...DIODE US1060M
D705	8-719-000-26	DIODE US1060M
D706	3-719-000-26	DIODE US1060M
D707	8-719-000-26	DIODE US1060M
D708	8-719-000-26	DIODE US1060M
D709	8-719-000-26	DIODE US1060M
D710	8-719-000-26	DIODE US1060M
D711	8-719-000-26	DIODE US1060M
D712	8-719-000-26	DIODE US1060M
D713	8-719-000-26	DIODE US1060M
D714	8-719-000-26	DIODE US1060M
D715	8-719-000-26	DIODE US1060M
D716	8-719-000-26	DIODE US1060M
D717	8-719-000-26	DIODE US1060M
D718	8-719-000-26	DIODE US1060M
D719	8-719-000-26	DIODE US1060M
D720	8-719-000-26	DIODE US1060M
D721	8-719-000-26	DIODE US1060M
D722	8-719-000-26	DIODE US1060M
D723	8-719-000-26	DIODE US1060M
D724	8-719-000-26	DIODE US1060M
FE1	1-463-857-11	(WG,IT)......FRONT END (FM)
FE1	1-463-862-21	(US,Canadian,AEP,UK) ...FRONT END (FM)
FE61	1-236-461-11	(US,Canadian)....ENCAPSULATED COMPONENT (MW RF)
FE61	1-236-462-11	(AEP,UK,WG,IT)...ENCAPSULATED COMPONENT (MW RF)
FE62	1-236-463-11	(AEP,UK,WG,IT)...ENCAPSULATED COMPONENT (LW RF)
FL701	1-519-517-11	INDICATOR TUBE, FLUORESCENT
IC21	8-759-821-45	IC LA1851N
IC81	8-759-820-91	IC LC7218
IC701	8-759-234-35	IC TMP47C670N-1283
IC702	8-749-920-59	IC A1QH3020S
L1	1-410-521-11	MICRO INDUCTOR (100UH)
L2	1-410-521-11	(WG,IT)....MICRO INDUCTOR (100UH)
L21	1-407-500-00	(AEP,UK,WG,IT)...MICRO INDUCTOR(4.7mH)
L21	1-410-171-11	(US,Canadian)....MICRO INDUCTOR (1mH)
L61	1-410-525-11	(AEP,UK,WG,IT)...MICRO INDUCTOR(220UH)
L701	1-410-521-11	INDUCTOR 100UH
L702	1-410-521-11	INDUCTOR 100UH
L703	1-408-080-00	INDUCTOR 100UH
L704	1-408-080-00	INDUCTOR 100UH
LPF22	1-235-164-00	FILTER, LOW PASS
LPF21	1-235-164-00	FILTER, LOW PASS
Q1	8-729-266-93	TRANSISTOR 2SC2669
Q2	8-729-266-93	TRANSISTOR 2SC2669
Q3	8-729-266-93	(WG,IT)...TRANSISTOR 2SC2669
Q4	8-729-266-93	(WG,IT)...TRANSISTOR 2SC2669
Q21	8-729-820-23	TRANSISTOR 2SC3330S
Q22	8-729-820-23	TRANSISTOR 2SC3330S
Q23	8-729-900-61	TRANSISTOR DTA114ES
Q24	8-729-900-80	TRANSISTOR DTC114ES
Q26	8-729-900-80	TRANSISTOR DTC114ES
Q61	8-729-900-80	TRANSISTOR DTC114ES
Q62	8-729-900-80	(AEP,UK,WG,IT)...TRANSISTOR DTC114ES
Q63	8-729-900-80	(AEP,UK,WG,IT)...TRANSISTOR DTC114ES
Q64	8-729-820-23	(AEP,UK,WG,IT)...TRANSISTOR 2SC3330S
Q65	8-729-820-10	(AEP,UK,WG,IT)...TRANSISTOR 2SA1317-SU
Q66	8-729-900-80	(AEP,UK,WG,IT)...TRANSISTOR DTC114ES
Q81	8-729-900-61	TRANSISTOR DTA114ES
Q82	8-729-900-80	TRANSISTOR DTC114ES
Q83	8-729-202-67	TRANSISTOR 2SK246GR3
Q84	8-729-201-84	TRANSISTOR 2SC3112B
Q85	8-729-202-67	(AEP,UK,WG,IT)...TRANSISTOR 2SK246GR3
Q86	8-729-201-84	(AEP,UK,WG,IT)...TRANSISTOR 2SC3112B
Q701	8-729-900-89	TRANSISTOR DTC144ES
Q702	8-729-900-89	TRANSISTOR DTC144ES
Q703	8-729-900-89	TRANSISTOR DTC144ES
R1	⚠.1-249-397-11	(WG,IT)...RES, CARBON (SMALL) 22 5% 1/4W
R1	⚠.1-249-401-11	(US,Canadian,AEP,UK)...RES, CARBON (SMALL) 47 5% 1/4W
R2	1-249-329-11	CARBON MELF 330 5% 1/8W
R3	1-249-329-11	CARBON MELF 330 5% 1/8W
R4	1-249-329-11	CARBON MELF 330 5% 1/8W
R5	1-249-329-11	CARBON MELF 330 5% 1/8W
R6	1-249-350-11	CARBON MELF 18K 5% 1/8W
R7	1-249-329-11	CARBON MELF 330 5% 1/8W
R8	1-249-332-11	CARBON MELF 560 5% 1/8W
R9	1-249-352-11	CARBON MELF 27K 5% 1/8W
R10	1-249-329-11	(WG,IT)...CARBON MELF 330 5% 1/8W
R11	1-249-350-11	(WG,IT)...CARBON MELF 18K 5% 1/8W
R12	1-249-329-11	(WG,IT)...CARBON MELF 330 5% 1/8W
R13	1-249-334-11	(WG,IT)...CARBON MELF 820 5% 1/8W
R14	1-249-352-11	(WG,IT)...CARBON MELF 27K 5% 1/8W
R15	1-249-347-11	(WG,IT)...CARBON MELF 10K 5% 1/8W
R16	1-249-343-11	(WG,IT)...CARBON MELF 4.7K 5% 1/8W
R21	⚠.1-249-404-00	RES, CARBON (SMALL) 82 5% 1.4W
R23	1-249-335-11	CARBON MELF 1K 5% 1/8W
R24	1-249-353-11	CARBON MELF 33K 5% 1/8W

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ELECT
20% 50V
IC
50V
F 5.5V
5% 50V
20% 16V
20% 25V

5% 50V
5% 50V
5% 50V

5% 50V
50V
50V

1/5W

MIC

C FILTER)

US1060M
US1060M

(FM)

(FM)

ULATED
ENT (MW RF)
ULATED
ENT (MW RF)

ULATED
ENT (LW RF)

CENT

Ref.No.	Part No.	Description
L1	1-410-521-11	MICRO INDUCTOR (100UH)
L2	1-410-521-11	(WG,IT)....MICRO INDUCTOR (100UH)
L21	1-407-500-00	(AEP,UK,WG,IT)...MICRO INDUCTOR(4.7mH)
L21	1-410-171-11	(US,Canadian)....MICRO INDUCTOR (1mH)
L61	1-410-525-11	(AEP,UK,WG,IT)...MICRO INDUCTOR(220UH)
L701	1-410-521-11	INDUCTOR 100UH
L702	1-410-521-11	INDUCTOR 100UH
L703	1-408-080-00	INDUCTOR 100UH
L704	1-408-080-00	INDUCTOR 100UH
LPF22	1-235-164-00	FILTER, LOW PASS
LPF21	1-235-164-00	FILTER, LOW PASS
Q1	8-729-266-93	TRANSISTOR 2SC2669
Q2	8-729-266-93	TRANSISTOR 2SC2669
Q3	8-729-266-93	(WG,IT)...TRANSISTOR 2SC2669
Q4	8-729-266-93	(WG,IT)...TRANSISTOR 2SC2669
Q21	8-729-820-23	TRANSISTOR 2SC3330S
Q22	8-729-820-23	TRANSISTOR 2SC3330S
Q23	8-729-900-61	TRANSISTOR DTA114ES
Q24	8-729-900-80	TRANSISTOR DTC114ES
Q26	8-729-900-80	TRANSISTOR DTC114ES
Q61	8-729-900-80	TRANSISTOR DTC114ES
Q62	8-729-900-80	(AEP,UK,WG,IT)...TRANSISTOR DTC114ES
Q63	8-729-900-80	(AEP,UK,WG,IT)...TRANSISTOR DTC114ES
Q64	8-729-820-23	(AEP,UK,WG,IT)...TRANSISTOR 2SC3330S
Q65	8-729-820-10	(AEP,UK,WG,IT)...TRANSISTOR 2SA1317-SU
Q66	8-729-900-80	(AEP,UK,WG,IT)...TRANSISTOR DTC114ES
Q81	8-729-900-61	TRANSISTOR DTA114ES
Q82	8-729-900-80	TRANSISTOR DTC114ES
Q83	8-729-202-67	TRANSISTOR 2SK246GR3
Q84	8-729-201-84	TRANSISTOR 2SC3112B
Q85	8-729-202-67	(AEP,UK,WG,IT)...TRANSISTOR 2SK246GR3
Q86	8-729-201-84	(AEP,UK,WG,IT)...TRANSISTOR 2SC3112B
Q701	8-729-900-89	TRANSISTOR DTC144ES
Q702	8-729-900-89	TRANSISTOR DTC144ES
Q703	8-729-900-89	TRANSISTOR DTC144ES
R1	⚠.1-249-397-11	(WG,IT)...RES, CARBON (SMALL) 22 5% 1/4W
R1	⚠.1-249-401-11	(US,Canadian,AEP,UK)...RES, CARBON (SMALL) 47 5% 1/4W
R2	1-249-329-11	CARBON MELF 330 5% 1/8W
R3	1-249-329-11	CARBON MELF 330 5% 1/8W
R4	1-249-329-11	CARBON MELF 330 5% 1/8W
R5	1-249-329-11	CARBON MELF 330 5% 1/8W
R6	1-249-350-11	CARBON MELF 18K 5% 1/8W
R7	1-249-329-11	CARBON MELF 330 5% 1/8W
R8	1-249-332-11	CARBON MELF 560 5% 1/8W
R9	1-249-352-11	CARBON MELF 27K 5% 1/8W
R10	1-249-329-11	(WG,IT)...CARBON MELF 330 5% 1/8W
R11	1-249-350-11	(WG,IT)...CARBON MELF 18K 5% 1/8W
R12	1-249-329-11	(WG,IT)...CARBON MELF 330 5% 1/8W
R13	1-249-334-11	(WG,IT)...CARBON MELF 820 5% 1/8W
R14	1-249-352-11	(WG,IT)...CARBON MELF 27K 5% 1/8W
R15	1-249-347-11	(WG,IT)...CARBON MELF 10K 5% 1/8W
R16	1-249-343-11	(WG,IT)...CARBON MELF 4.7K 5% 1/8W
R21	⚠.1-249-404-00	RES, CARBON (SMALL) 82 5% 1.4W
R23	1-249-335-11	CARBON MELF 1K 5% 1/8W
R24	1-249-353-11	CARBON MELF 33K 5% 1/8W

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Ref.No.	Part No.	Description
R22	1-249-428-11	(US,Canadian)....RES, CARBON (SMALL) 8.2K 5% 1/4W
R22	1-249-433-11	(AEP,UK,WG,IT)...RES, CARBON (SMALL) 22K 5% 1/4W
R25	1-249-428-11	RES, CARBON (SMALL) 8.2K 5% 1/4W
R27	1-249-350-11	CARBON MELF 18K 5% 1/8W
R28	1-249-423-11	RES, CARBON (SMALL) 3.3K 5% 1/4W
R29	1-249-347-11	CARBON MELF 10K 5% 1/8W
R31	1-249-331-11	CARBON MELF 470 5% 1/8W
R32	1-249-347-11	CARBON MELF 10K 5% 1/8W
R33	1-249-347-11	CARBON MELF 10K 5% 1/8W
R34	1-249-437-11	RES, CARBON (SMALL) 47K 5% 1/4W
R35	1-249-355-11	CARBON MELF 47K 5% 1/8W
R37	1-249-359-11	CARBON MELF 100K 5% 1/8W
R38	1-249-363-11	CARBON MELF 220K 5% 1/8W
R39	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R40	1-249-338-11	CARBON MELF 1.8K 5% 1/8W
R41	1-249-344-11	CARBON MELF 5.6K 5% 1/8W
R42	1-249-359-11	CARBON MELF 100K 5% 1/8W
R43	1-249-363-11	CARBON MELF 220K 5% 1/8W
R44	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R45	1-249-338-11	CARBON MELF 1.8K 5% 1/8W
R46	1-249-344-11	CARBON MELF 5.6K 5% 1/8W
R47	⚠.1-249-409-11	RES, CARBON (SMALL) 220 5% 1/4W
R61	1-249-359-11	CARBON MELF 100K 5% 1/8W
R62	1-249-355-11	CARBON MELF 47K 5% 1/8W
R63	1-249-315-11	(US,Canadian)....CARBON MELF 22 5% 1/8W
R64	1-249-351-11	(AEP,UK,WG,IT)...CARBON MELF 22K 5% 1/8W
R65	1-249-355-11	(AEP,UK,WG,IT)...CARBON MELF 47K 5% 1/8W
R66	1-215-493-00	(AEP,UK,WG,IT)...CARBON MELF 1M 5% 1/5W
R67	1-249-359-11	(AEP,UK,WG,IT)...CARBON MELF 100K 5% 1/8W
R68	1-249-352-11	(AEP,UK,WG,IT)...CARBON MELF 27K 5% 1/8W
R69	1-249-351-11	(AEP,UK,WG,IT)...CARBON MELF 22K 5% 1/8W
R70	1-249-331-11	(AEP,UK,WG,IT)...CARBON MELF 470 5% 1/8W
R71	1-249-339-11	(AEP,UK,WG,IT)...CARBON MELF 2.2K 5% 1/8W
R72	1-249-351-11	(AEP,UK,WG,IT)...CARBON MELF 22K 5% 1/8W
R73	1-249-343-11	(AEP,UK,WG,IT)...CARBON MELF 4.7K 5% 1/8W
R74	1-249-347-11	(AEP,UK,WG,IT)...CARBON MELF 10K 5% 1/8W
R75	1-249-343-11	(AEP,UK,WG,IT)...CARBON MELF 4.7K 5% 1/8W
R81	1-249-335-11	CARBON MELF 1K 5% 1/8W
R82	1-249-335-11	CARBON MELF 1K 5% 1/8W
R83	1-249-335-11	CARBON MELF 1K 5% 1/8W
R84	1-249-335-11	CARBON MELF 1K 5% 1/8W
R85	1-249-347-11	CARBON MELF 10K 5% 1/8W
R86	1-249-335-11	CARBON MELF 1K 5% 1/8W
R87	1-249-347-11	CARBON MELF 10K 5% 1/8W
R88	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R89	1-249-335-11	CARBON MELF 1K 5% 1/8W
R90	1-249-347-11	CARBON MELF 10K 5% 1/8W
R91	1-249-335-11	CARBON MELF 1K 5% 1/8W
R92	⚠.1-249-401-11	RES, CARBON (SMALL) 47 5% 1/4W
R101	1-249-341-11	CARBON MELF 3.3K 5% 1/8W
R102	1-249-332-11	CARBON MELF 560 5% 1/8W
R103	1-249-335-11	CARBON MELF 1K 5% 1/8W
R104	1-249-328-11	CARBON MELF 270 5% 1/8W
R105	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R106	1-249-339-11	CARBON MELF 2.2K 5% 1/8W
R107	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R108	1-249-323-11	CARBON MELF 100 5% 1/8W
R109	1-249-343-11	CARBON MELF 4.7K 5% 1/8W
R110	1-249-405-11	RES, CARBON (SMALL) 100 5% 1/4W
R111	1-249-341-11	(AEP,UK,WG,IT)...CARBON MELF 3.3K 5% 1/8W
R112	1-249-332-11	(AEP,UK,WG,IT)...CARBON MELF 560 5% 1/8W
R113	1-249-335-11	(AEP,UK,WG,IT)...CARBON MELF 1K 5% 1/8W
R114	1-249-328-11	(AEP,UK,WG,IT)...CARBON MELF 270 5% 1/8W
R115	1-249-351-11	(AEP,UK,WG,IT)...CARBON MELF 22K 5% 1/8W
R116	1-249-339-11	(AEP,UK,WG,IT)...CARBON MELF 2.2K 5% 1/8W
R117	1-249-343-11	(AEP,UK,WG,IT)...CARBON MELF 4.7K 5% 1/8W
R118	1-249-323-11	(AEP,UK,WG,IT)...CARBON MELF 100 5% 1/8W
R701	1-249-405-11	CARBON 100 5% 1/4W
R702	1-249-438-11	CARBON 56K 5% 1/4W
R703	1-249-435-11	CARBON 33K 5% 1/4W
R704	1-249-429-11	CARBON 10K 5% 1/4W
R705	1-249-433-11	CARBON 22K 5% 1/4W

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Ref.No.	Part No.	Description
R706	1-249-438-11	CARBON 56K 5% 1/4W
R707	1-249-435-11	CARBON 33K 5% 1/4W
R708	1-249-441-11	CARBON 100K 5% 1/4W
R709	1-249-429-11	CARBON 10K 5% 1/4W
R710	1-249-429-11	CARBON 10K 5% 1/4W
R711	1-249-429-11	CARBON 10K 5% 1/4W
R712	1-249-429-11	CARBON 10K 5% 1/4W
R713	1-249-429-11	CARBON 10K 5% 1/4W
R714	1-249-429-11	CARBON 10K 5% 1/4W
R715	1-249-429-11	CARBON 10K 5% 1/4W
R716	1-249-429-11	CARBON 10K 5% 1/4W
R717	1-249-423-11	CARBON 3.3K 5% 1/4W
R718	1-249-429-11	CARBON 10K 5% 1/4W
R719	1-249-429-11	CARBON 10K 5% 1/4W
R720	1-249-429-11	CARBON 10K 5% 1/4W
R721	1-249-411-11	CARBON 330 5% 1/4W
R722	1-249-441-11	CARBON 100K 5% 1/4W
R723	1-249-441-11	CARBON 100K 5% 1/4W
R724	1-249-441-11	CARBON 100K 5% 1/4W
R725	1-249-441-11	CARBON 100K 5% 1/4W
R726	1-249-441-11	CARBON 100K 5% 1/4W
R727	1-249-421-11	CARBON 2.2K 5% 1/4W
RB701	1-233-125-11	COMPOSITION CIRCUIT BLOCK (10KX4)
RV21	1-238-013-11	(US,Canadian,AEP,UK)...RES, ADJ, CARBON 2.2K (STEREO SEPARATION)
RV21	1-238-015-51	(WG,IT)...RES, ADJ, CARBON 4.7K (STEREO SEPARATION)
RV22	1-238-017-11	RES, ADJ, CARBON 22K (AM TUNED)
RV24	1-238-017-11	(US,Canadian,AEP,UK) ...RES, ADJ, CARBON 22K (FM TUNED)
RV24	1-238-019-11	(WG,IT)...RES, ADJ, CARBON 47K (FM TUNED)

Ref.No.	Part No.	Description
S701	1-554-596-21	SWITCH, KEY BOARD (1)
S702	1-554-596-21	SWITCH, KEY BOARD (2)
S703	1-554-596-21	SWITCH, KEY BOARD (3)
S704	1-554-596-21	SWITCH, KEY BOARD (4)
S705	1-554-596-21	SWITCH, KEY BOARD (5)
S706	1-554-596-21	SWITCH, KEY BOARD (6)
S707	1-554-596-21	SWITCH, KEY BOARD (7)
S708	1-554-596-21	SWITCH, KEY BOARD (8)
S709	1-554-596-21	SWITCH, KEY BOARD (9)
S710	1-554-596-21	SWITCH, KEY BOARD (0)
S711	1-554-596-21	SWITCH, KEY BOARD (STEREO MUTING)
S712	1-554-596-21	SWITCH, KEY BOARD (MEMORY SCAN)
S713	1-554-596-21	SWITCH, KEY BOARD (MERORY NEXT)
S714	1-554-596-21	SWITCH, KEY BOARD (SHIFT)
S715	1-554-596-21	SWITCH, KEY BOARD (BAND)
S716	1-554-596-21	SWITCH, KEY BOARD (PRESET TUNING)
S717	1-554-596-21	SWITCH, KEY BOARD (TIME/FREQUENCY)
S718	1-554-596-21	SWITCH, KEY BOARD (TIMER/TUNER +)
S719	1-554-596-21	SWITCH, KEY BOARD (TIMER/TUNER -)
S720	1-554-596-21	SWITCH, KEY BOARD (CLOOK)
S721	1-554-596-21	SWITCH, KEY BOARD (TIMER CONTROL)
S722	1-554-596-21	SWITCH, KEY BOARD (TIMER SET)
S723	1-554-596-21	SWITCH, KEY BOARD (SLEEP)
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR
T23	1-236-465-11	(WG,IT)...ENCAPSULATED COMPONENT
TM1	1-536-708-00	(US,Canadian)....TERMINAL BOARD (ANT)
TM1	*1-537-138-21	(AEP,UK).........TERMINAL BOARD (ANT)
TM1	*1-537-138-31	(WG,IT)..........TERMINAL BOARD (ANT)
TP1	*1-560-060-00	PIN, CONNECTOR 2P (NULL)
X701	1-567-821-21	VIBRATOR, CRYSTAL (4.19MHz)
XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)

CDP-S37/S207

SERVICE MANUAL

Canadian Model
AEP Model
UK Model
E Model
CDP-S37

US Model
Canadian Model
AEP Model
UK Model
CDP-S207

SPECIFICATIONS

Compact disc player

	CDP-S207	CDP-S37
Frequency response	5 Hz – 20 kHz ($^{+0.5}_{-2.0}$ dB)	
Signal to noise ratio	More than 95 dB	
Dynamic range	More than 90 dB	
Harmonic distortion	Less than 0.05% (at 1 kHz)	
Channel separation	More than 90 dB	

Outputs

	CDP-S207	CDP-S37
LINE OUT (FIXED) (phono jacks)	Output level 2 V (at 50 kilohms) Load impedance over 10 kilohms	
HEADPHONES (stereo phone jack)	—	Output level max. 11 mW
	—	Load impedance 32 ohms

General

	CDP-S207	CDP-S37
Power requirements	AEP model: (CDP-S207/CDP-S37) 220V AC, 50/60Hz UK model: (CDP-S207) 240V AC, 50/60Hz US model: (CDP-S207) 120V AC, 60Hz Canadian model: (CDP-S207/CDP-S37) 120V AC, 60Hz E model: (CDP-S37) 110~120 or 220~240V AC adjustable, 50/60Hz	
Power consumption	10 W	
Dimensions (approx.. including projections)	225 × 65 × 230 mm (w/h/d) (8 3/8 × 4 3/4 × 9 1/8 inches)	
Weight (approx.)	2.0 kg (4 lb 7 oz)	

Model Name Using Similar Mechanism	New
CD Transport Mechanism Type	KSS-211A
Optical Pick-Up Block Type	BU-5F

Supplied accessories

	CDP-S207	CDP-S37
Audio cord	1 (2 phono plugs – 2 phono plugs)	
Connecting cord	1	

Design and specifications subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MICROFILM

COMPACT DISC PLAYER

SONY®

MC-Service

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

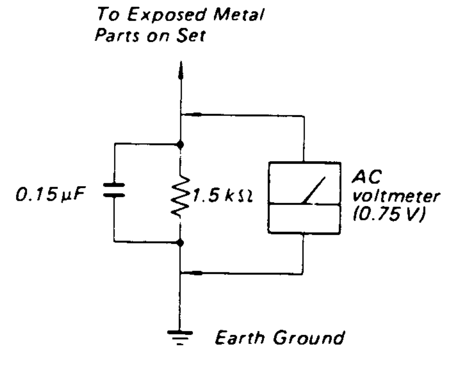


Fig. A. Using an AC voltmeter to check AC leakage.

SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

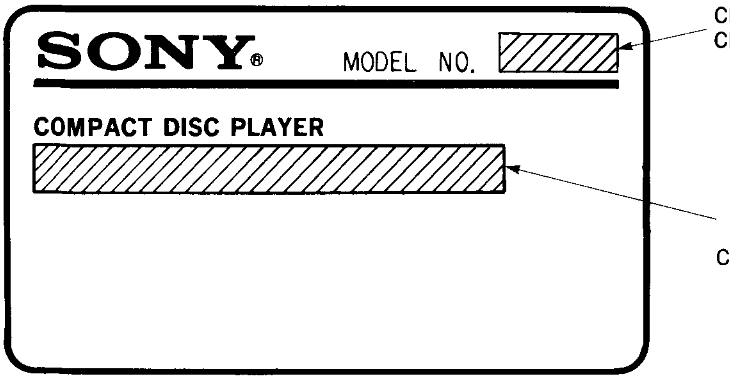
CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

MODEL IDENTIFICATION
(Specfication Label)

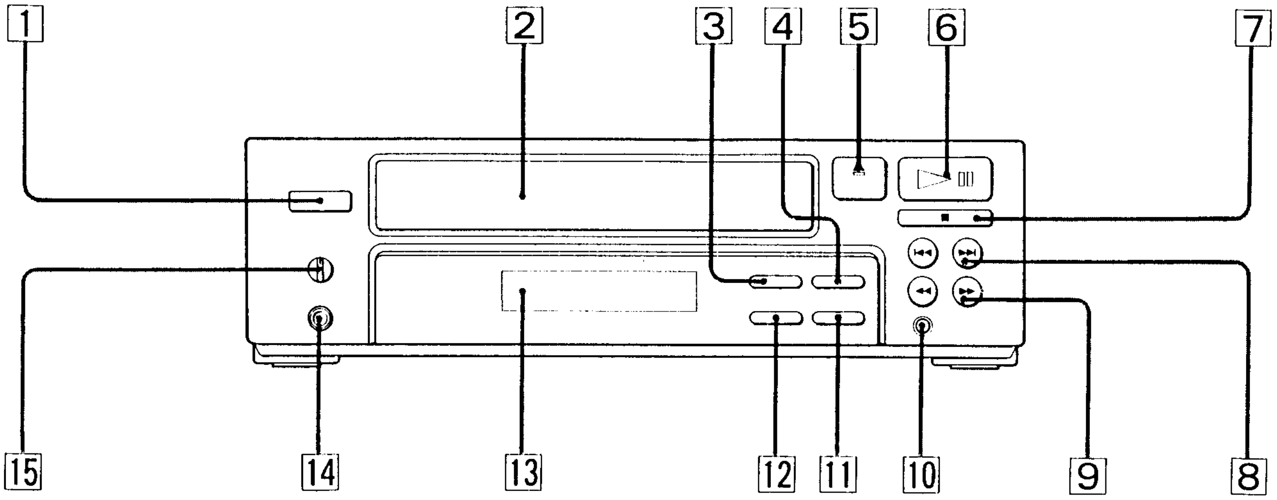


CDP-S37
CDP-S207

US model:	AC	120V 60Hz	10W
Canadian model:	AC	120V 60Hz	10W
AEP model:	AC	220V~50/60Hz	
UK model:	AC	240V~50/60Hz	
E model:	AC	110-120/220-240V~50/60Hz	10W

SECTION 1
GENERAL

1-1. LOCATION OF CONTROLS



1 POWER switch
2 Disc compartment
3 PROGRAM button
4 SHUFFLE button
5 ▲ (open/close) button
6 ▶II (play/pause) button
7 ■ (stop) button
8 I◀◀ ▶▶I (AMS) button
9 ◀◀ ▶▶ (manual search) buttons
10 REPEAT button
11 CONTINUE button
12 TIME button
13 Display window
14 HEADPHONES jack (only for S37)
15 PHONE LEVEL (headphone Level) control (only for S37)

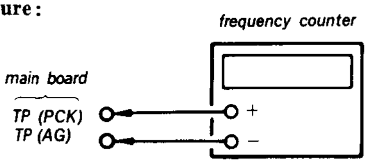
MC-Service

SECTION 2
ELECTRICAL ADJUSTMENTS

1. Perform adjustments is the order given.
2. Use YEDS-18 (Part No : 3-702-101-01) disc unless otherwise indicated.
3. Use the oscilloscpe with more than 10 MΩ impedance.

RF PLL Frequency Adjustment/Lock Frequency Check

Procedure :

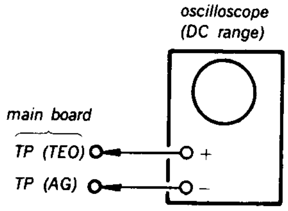

frequency counter
main board
TP (PCK)
TP (AG)
+
−

1. Connect test point TP (ASY) to ground with lead wire.
2. Turn POWER switch on.
3. Connect the frequency counter to test point TP (PCK) and TP (AG).
4. Adjust RV4 so that the reading on the frequency counter is 4.3218MHz±30kHz.... (RF PLL frequency adjustment).
5. Remove lead wire connecting TP (ASY) to ground.
6. Put disc (YEDS-18) in and press ▷ button.
7. Confirm that the reading on frequency counter is 4.3218MHz.... (Lock frequency check).

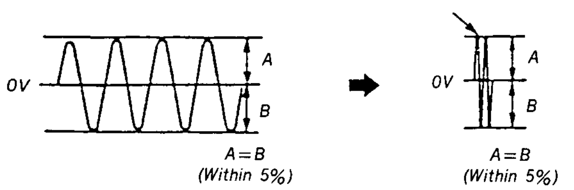
E-F Balance Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

Procedure :


oscilloscope
(DC range)
main board
TP (TEO)
TP (AG)
+
−

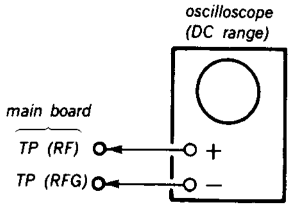
1. Connect test point TP (ADJ) and test point TP (TEI) to ground with lead wire.
2. Connect oscilloscope to test point TP (TEO) and TP (AG).
3. Turn POWER switch on.
4. Put disc (YEDS-18) in and press ▷ button.
5. Adjust RV1 so that the traverse waveform is symmetrical above and belew.
6. After adjustment, remove the lead wire connected in step5.


Easy to see sweep time is lodg.
OV
A
B
A=B
(Within 5%)
OV
A
B
A=B
(Within 5%)

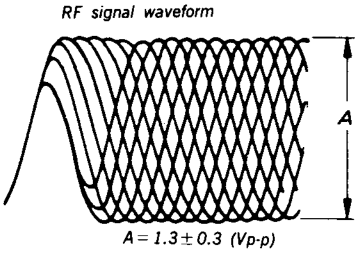
Focus Bias Adjustment

This adjustment should be made when replacing TOP (Ttype Optical Pick-up).

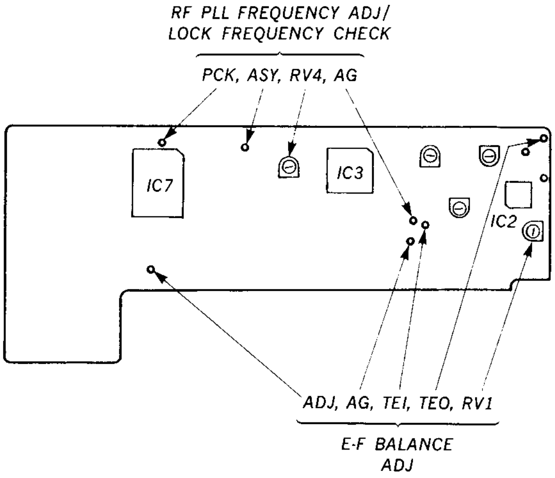
Procedure :

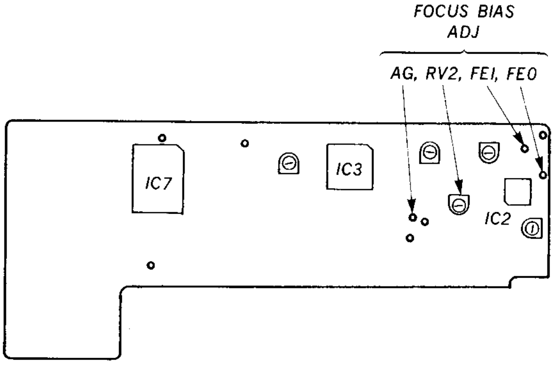

oscilloscope
(DC range)
main board
TP (RF)
TP (RFG)
+
−

1. Connect oscilloscope to test point TP (RF) and TP (RFG).
2. Turn POWER switch on.
3. Put disc (YEDS-18) in and press ▷ button.
4. Adjust RV102 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.


RF signal waveform
A
A = 1.3±0.3 (Vp-p)

Adjustment Location : main board


RF PLL FREQUENCY ADJ/
LOCK FREQUENCY CHECK
PCK, ASY, RV4, AG
IC7
IC3
IC2
ADJ, AG, TEI, TEO, RV1
E-F BALANCE
ADJ


FOCUS BIAS
ADJ
AG, RV2, FEI, FEO
IC7
IC3
IC2

REFERENCE

Focus/Tracking Gain Adjustments

A frequency responce analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow up (vertical and horizontal) relative to mechanical noise and shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

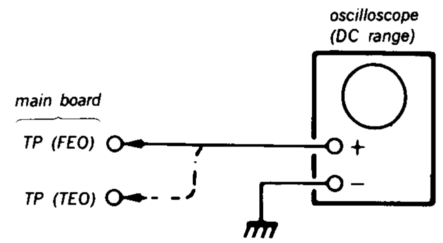
Gain Symptoms	Focus	Tracking
● The time until music starts becomes longer for ■→▷ or automatic selection. (⧏◁, ▷⧐ buttons pressed.)(Normally takes about 1 seconds.)	low	low or high
● Music does not start and disc continues to rotate for ■→▷ or automatic selection. (⧏◁, ▷⧐ buttons pressed.)	—	low
● Disc table opens shortly after ■→▷.	low or high	—
● Sound is interrupted during PLAY or time counter display stops progressing.	—	low
● More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

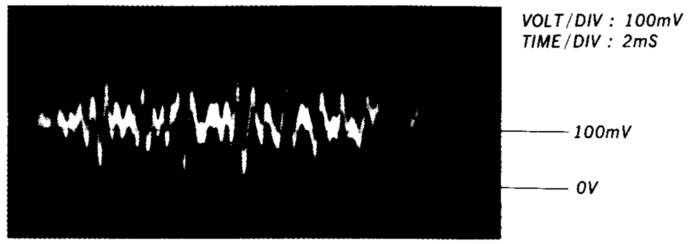
—Primary Adjustment—

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the position after the primary adjustment are only a little different, return the controls to the original position.

Procedure :

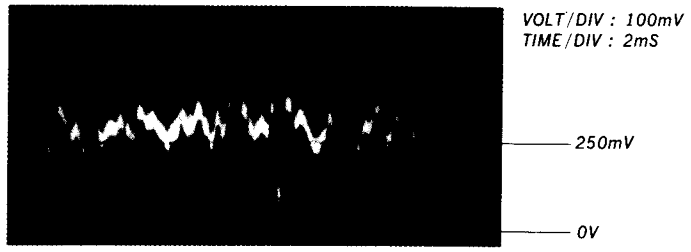


1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert disc (YEDS-18 : Fifth Selection) and press ▷ button.
3. Connect oscilloscope to main board TP (FEO).
4. Adjust RV3 so that the waveform is as shown is the figure below. (focus gain adjustment)
5. Connect oscilloscope to main board TP (TEO).
6. Adjust RV5 so that the waveform is as shown is the figure below. (tracking gain adjustment)

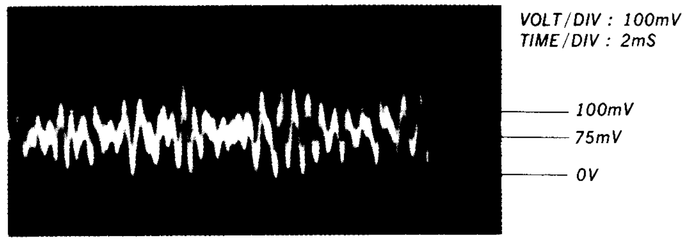


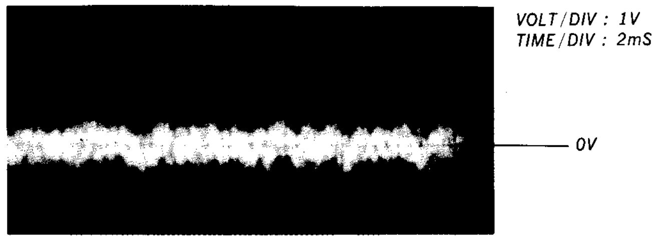
- Incorrent Examples (DC level changes more than on adjusted waveform)

low focus gain



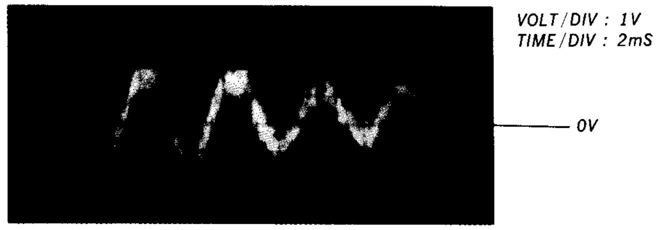
high focus gain



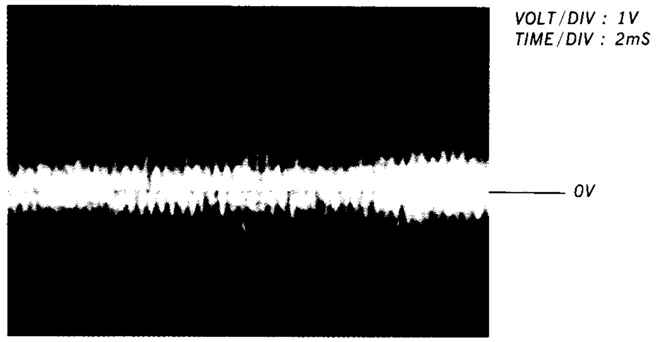


- Incorrect Examples (fundamental wave appears)

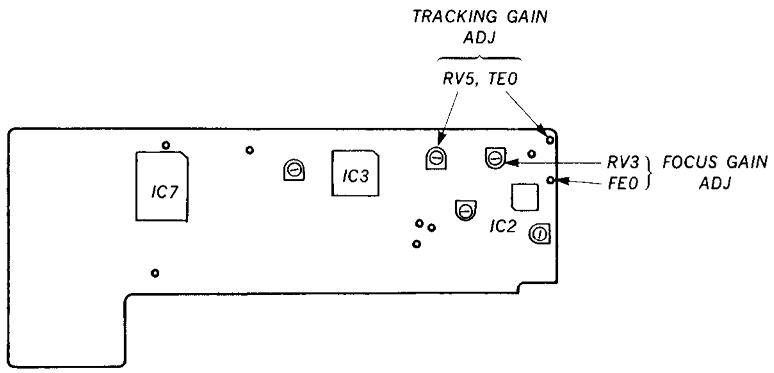
low tracking gain



high tracking gain
higher fundamental wave than for low gain)



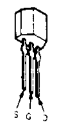
Adjustment Location : main board



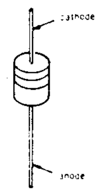
SECTION 3
DIAGRAM

3-1. SEMICONDUTOR LEAD LAYOUTS

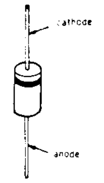
2SK381-C



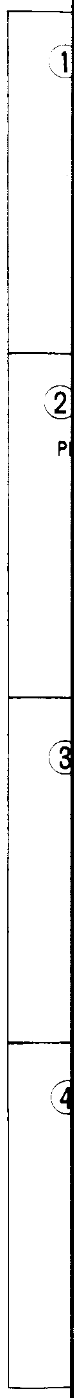
RD6.8FS-B1



10E2



3-2.



MC-Service

ot be
evice.
but-

s the

s the

T/DIV : 100mV
E/DIV : 2mS

– 100mV

– 0V

djust-

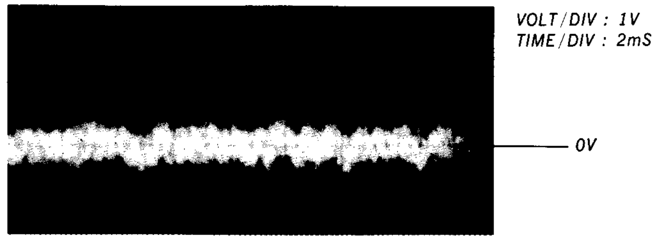
T/DIV : 100mV
/DIV : 2mS

– 250mV

– 0V

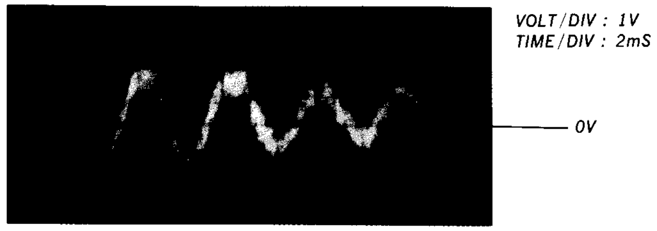
/DIV : 100mV
/DIV : 2mS

– 100mV
– 75mV
– 0V

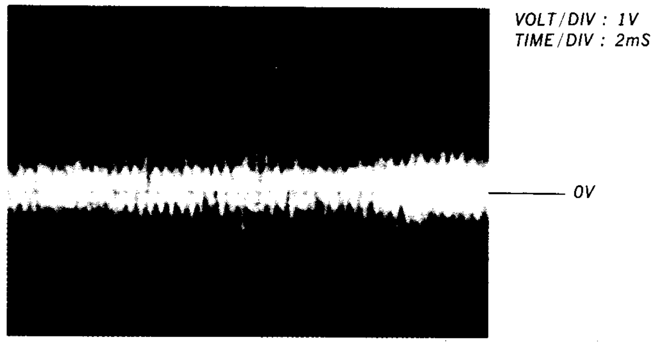


- Incorrect Examples (fundamental wave appears)

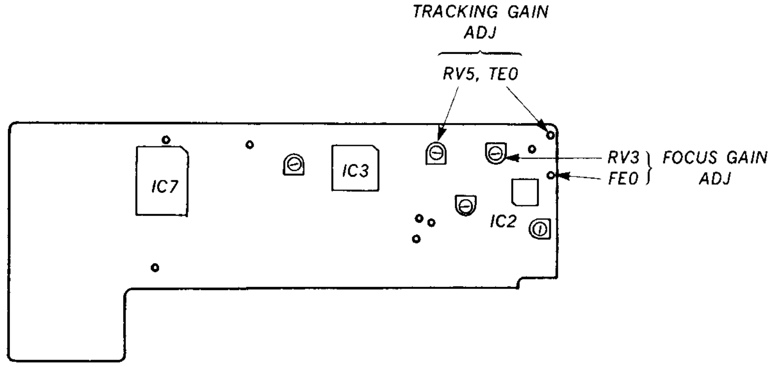
low tracking gain



high tracking gain
higher fundamental wave than for low gain)



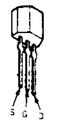
Adjustment Location : main board


TRACKING GAIN
ADJ
RV5, TEO
RV3
FEO
FOCUS GAIN
ADJ
IC7
IC3
IC2

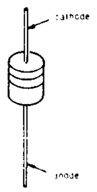
SECTION 3
DIAGRAM

3-1. SEMICONDUTOR LEAD LAYOUTS

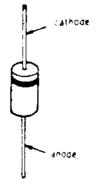
2SK381-C



RD6.8FS-B1

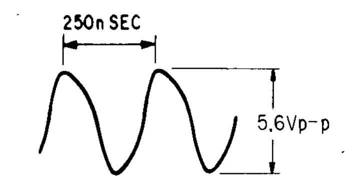

cathode
anode

10E2

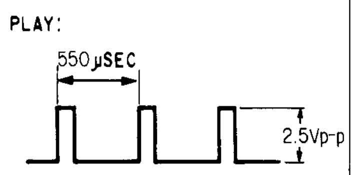

cathode
anode

3-2. WAVEFORMS

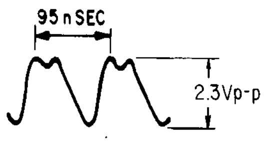
① OSCI



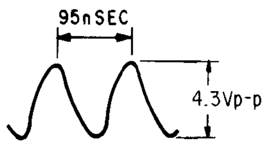
② MDP



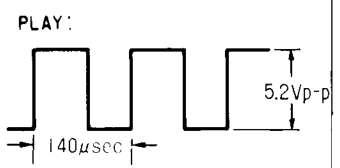
③ VCO I



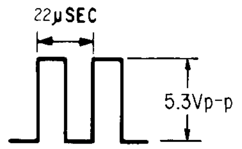
④ VCO O



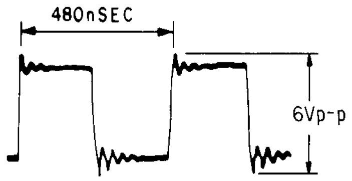
5 MDS



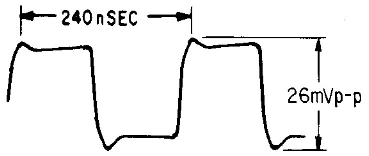
⑥ LRCK



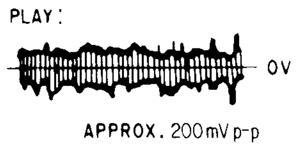
⑦ $\overline{C210}$



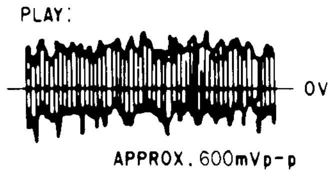
⑧ BCK



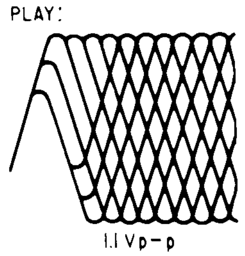
9 FE



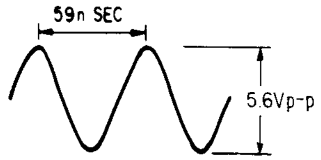
10 TE



11 RF



12 XTAL



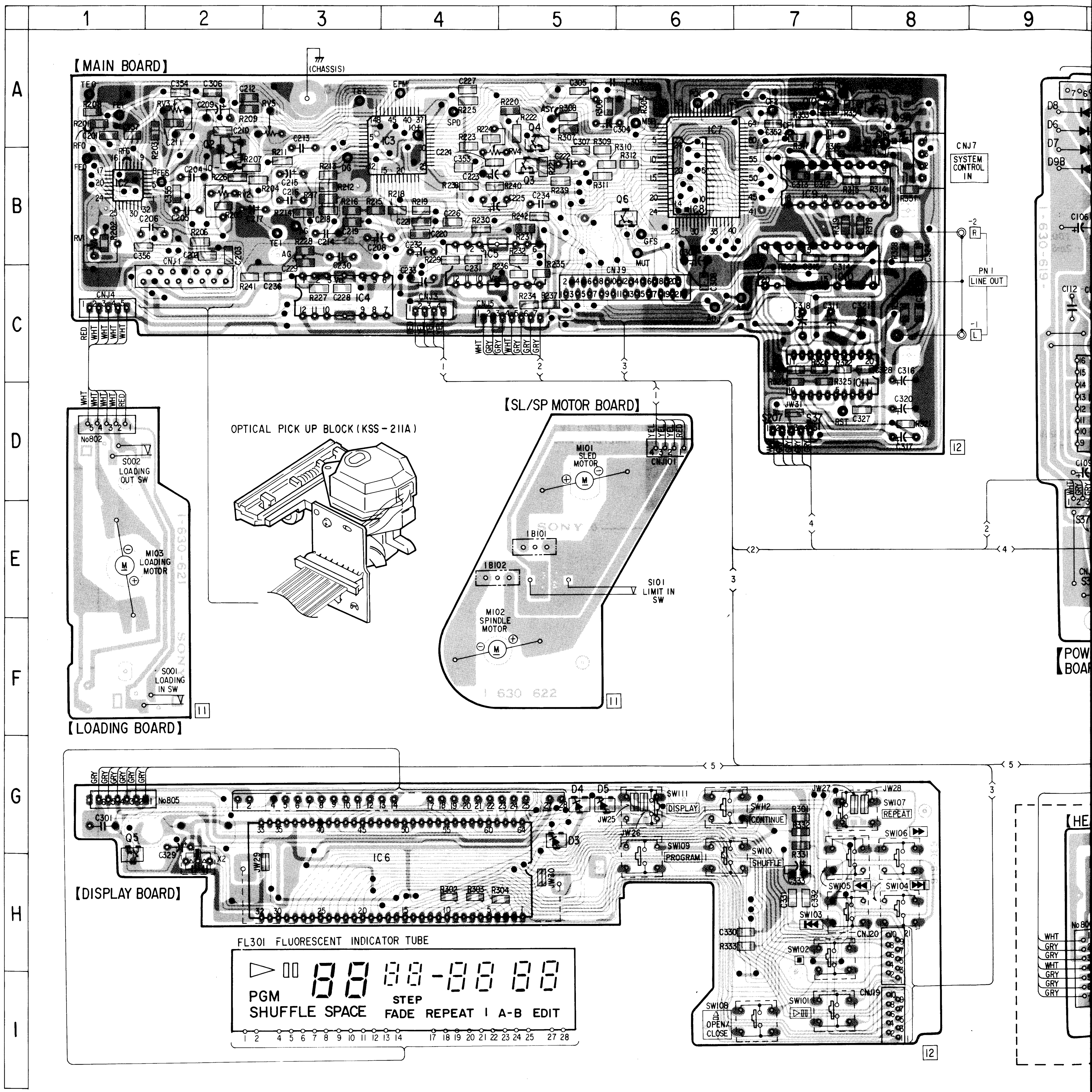
• Semiconductor Location

Ref. No.	Location
D1	A-10
D3	G-5
D4	G-5
D5	G-5
D6	A-9
D7	B-9
D8	A-9
D9A	A-8
D9B	B-9
D10	B-10
IC1	D-10
IC2	B-1
IC3	A-4
IC4	C-3
IC5	B-4
IC6	H-4
IC7	B-6
IC8	B-6
IC9	B-7
IC10	C-7
IC11	C-7
IC12	C-10
Q1	C-10
Q2	B-2
Q3	B-5
Q4	A-5
Q5	G-1
Q6	B-6
Q10	A-7
Q11	A-8

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.

3-3. PRINTED WIRING BOARD

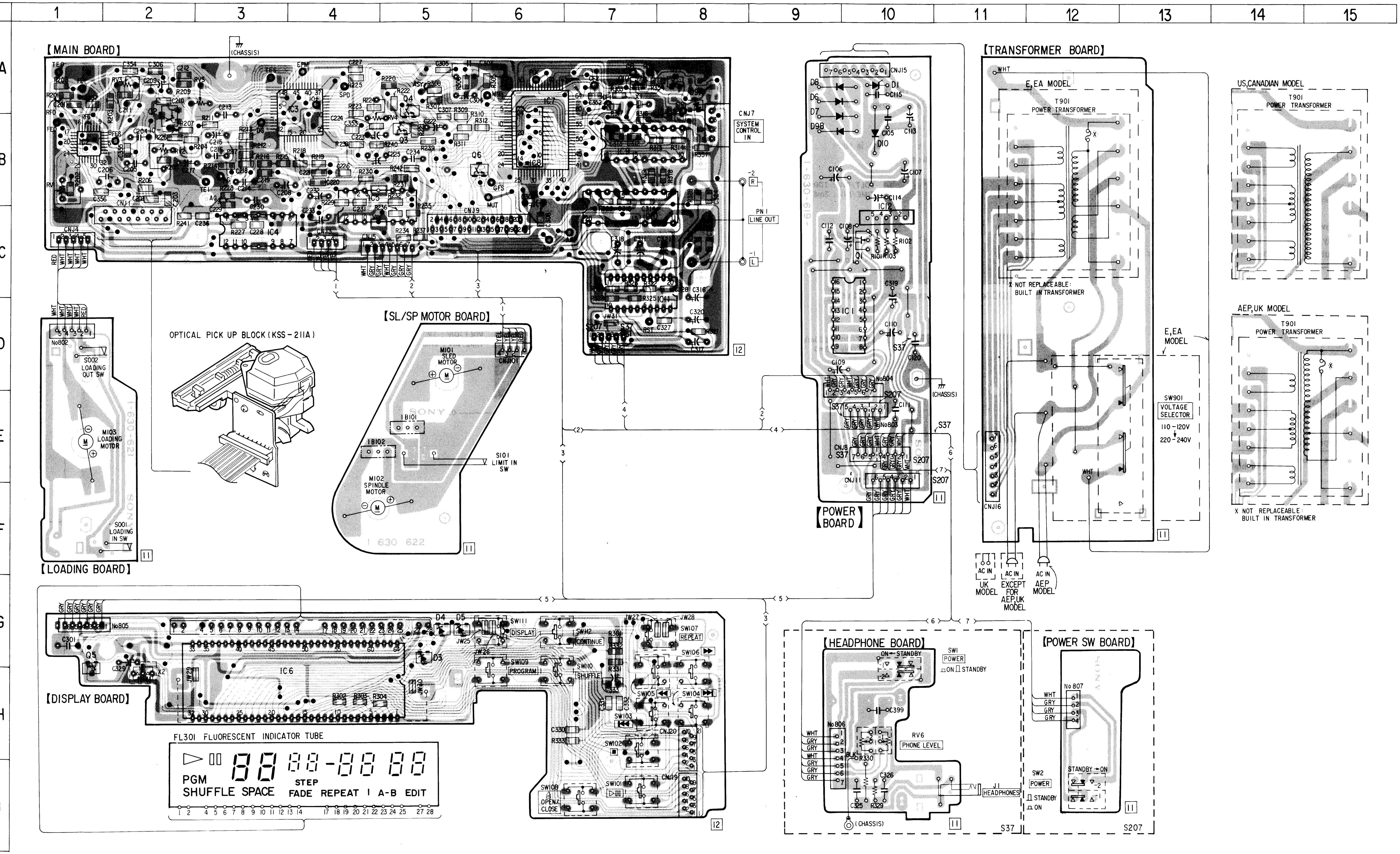
• Refer to page 6 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
【MAIN BOARD】
(CHASSIS)
IC3
IC4
IC5
IC7
IC8
Q3
Q4
Q6
CNJ7
SYSTEM CONTROL IN
PN1
LINE OUT
R
L
CNJ4
CNJ9
CNJ5
CNJ3
RED
WHT
GRY
YEL
【SL/SP MOTOR BOARD】
OPTICAL PICK UP BLOCK (KSS-211A)
M101
SLED MOTOR
M102
SPINDLE MOTOR
S101
LIMIT IN SW
CNJ101
1B101
1B102
No802
S002
LOADING OUT SW
M103
LOADING MOTOR
S001
LOADING IN SW
【LOADING BOARD】
1-630-621
1 630 622
1-630-619
【DISPLAY BOARD】
No805
IC6
Q5
D3
D4
D5
SW111 DISPLAY
SW112 CONTINUE
SW109 PROGRAM
SW110 SHUFFLE
SW107 REPEAT
SW106 ▶▶
SW105 ◀◀
SW104 ▶▶|
SW103 |◀◀
SW102 ■
SW101 ▷II
SW108 OPEN/CLOSE
CNJ20
CNJ19
FL301 FLUORESCENT INDICATOR TUBE
PGM
SHUFFLE SPACE
STEP
FADE REPEAT
A-B
EDIT
11
12
【POW BOA
【HE

MC-Service

-3. PRINTED WIRING BOARD

• Refer to page 6 for Semiconductor Lead Layouts.


1
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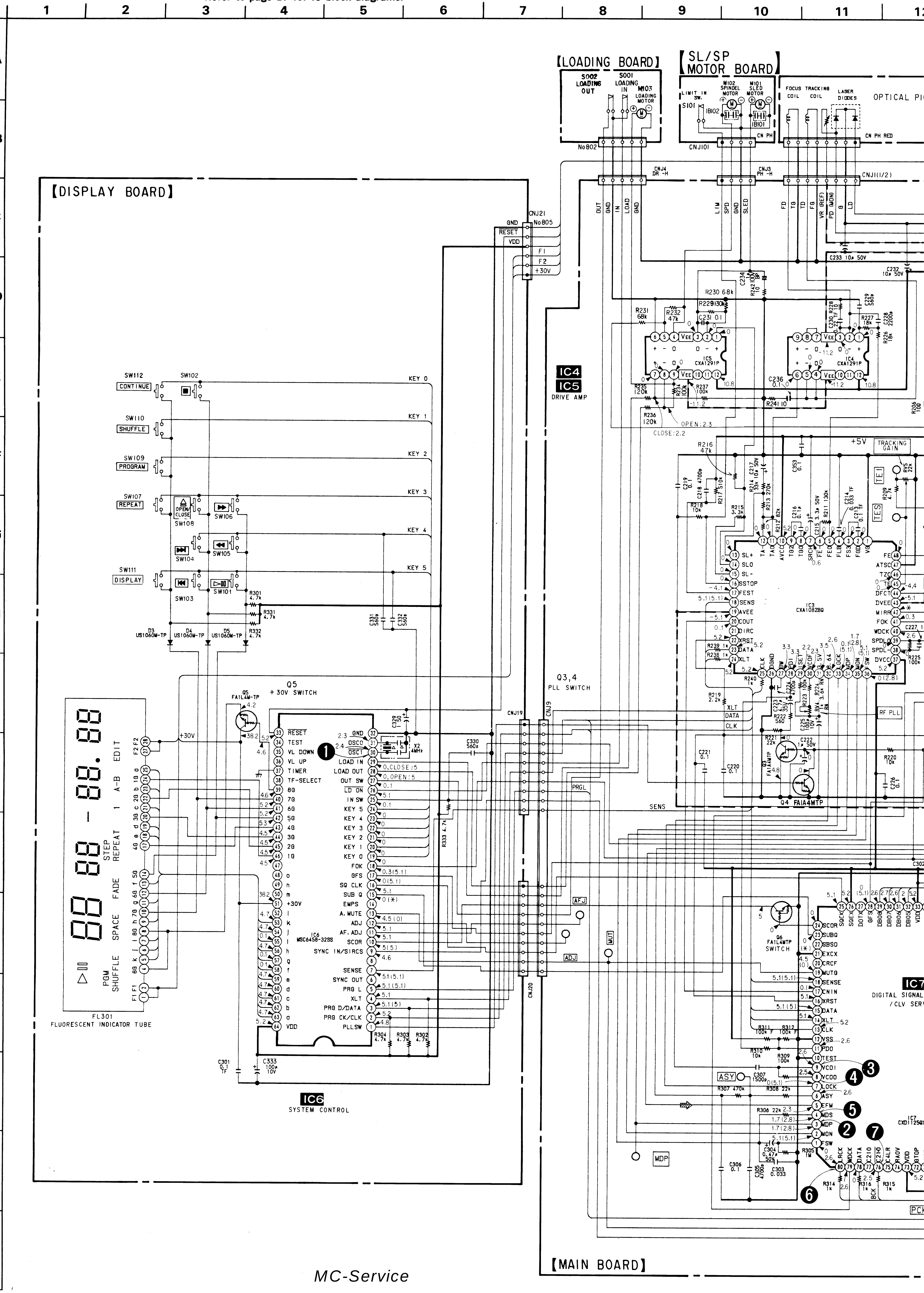
11
12
13
14
15
A
B
C
D
E
F
G
H
【MAIN BOARD】
(CHASSIS)
CNJ7
SYSTEM CONTROL IN
PN1
LINE OUT
R
L
CNJ1
CNJ4
CNJ3
CNJ5
CNJ9
IC3
IC4
IC5
IC7
IC8
IC9
IC11
Q4
Q6
RED
WHT
GRY
YEL
【LOADING BOARD】
No802
S002 LOADING OUT SW
M103 LOADING MOTOR
S001 LOADING IN SW
OPTICAL PICK UP BLOCK (KSS-211A)
【SL/SP MOTOR BOARD】
M101 SLED MOTOR
M102 SPINDLE MOTOR
S101 LIMIT IN SW
CNJ101
1B101
1B102
【POWER BOARD】
CNJ15
D1
D6
D7
D8
D9B
D10
IC1
IC12
No804
No803
CNJ8
CNJ11
S37
S207
(CHASSIS)
【TRANSFORMER BOARD】
E, EA MODEL
T901 POWER TRANSFORMER
X NOT REPLACEABLE: BUILT IN TRANSFORMER
CNJ16
E, EA MODEL
SW901 VOLTAGE SELECTOR
110-120V
220-240V
US, CANADIAN MODEL
T901 POWER TRANSFORMER
AEP, UK MODEL
T901 POWER TRANSFORMER
X NOT REPLACEABLE: BUILT IN TRANSFORMER
AC IN UK MODEL
AC IN EXCEPT FOR AEP, UK MODEL
AC IN AEP MODEL
【DISPLAY BOARD】
No805
IC6
D3
D4
D5
Q5
X2
SW111 DISPLAY
SW112 CONTINUE
SW109 PROGRAM
SW110 SHUFFLE
SW107 REPEAT
SW106 ▶▶
SW105 ◀◀
SW104 ▶▶|
SW103 |◀◀
SW102 ■
SW101 ▷II
SW108 OPEN/CLOSE
CNJ20
CNJ19
FL301 FLUORESCENT INDICATOR TUBE
PGM
SHUFFLE SPACE
STEP
FADE REPEAT
A-B EDIT
【HEADPHONE BOARD】
SW1 POWER
ON ← STANDBY
No806
RV6 PHONE LEVEL
J1 HEADPHONES
(CHASSIS)
S37
【POWER SW BOARD】
No807
SW2 POWER
STANDBY → ON
S207

MC-Service

• Refer to page 17 for IC block diagrams.


1
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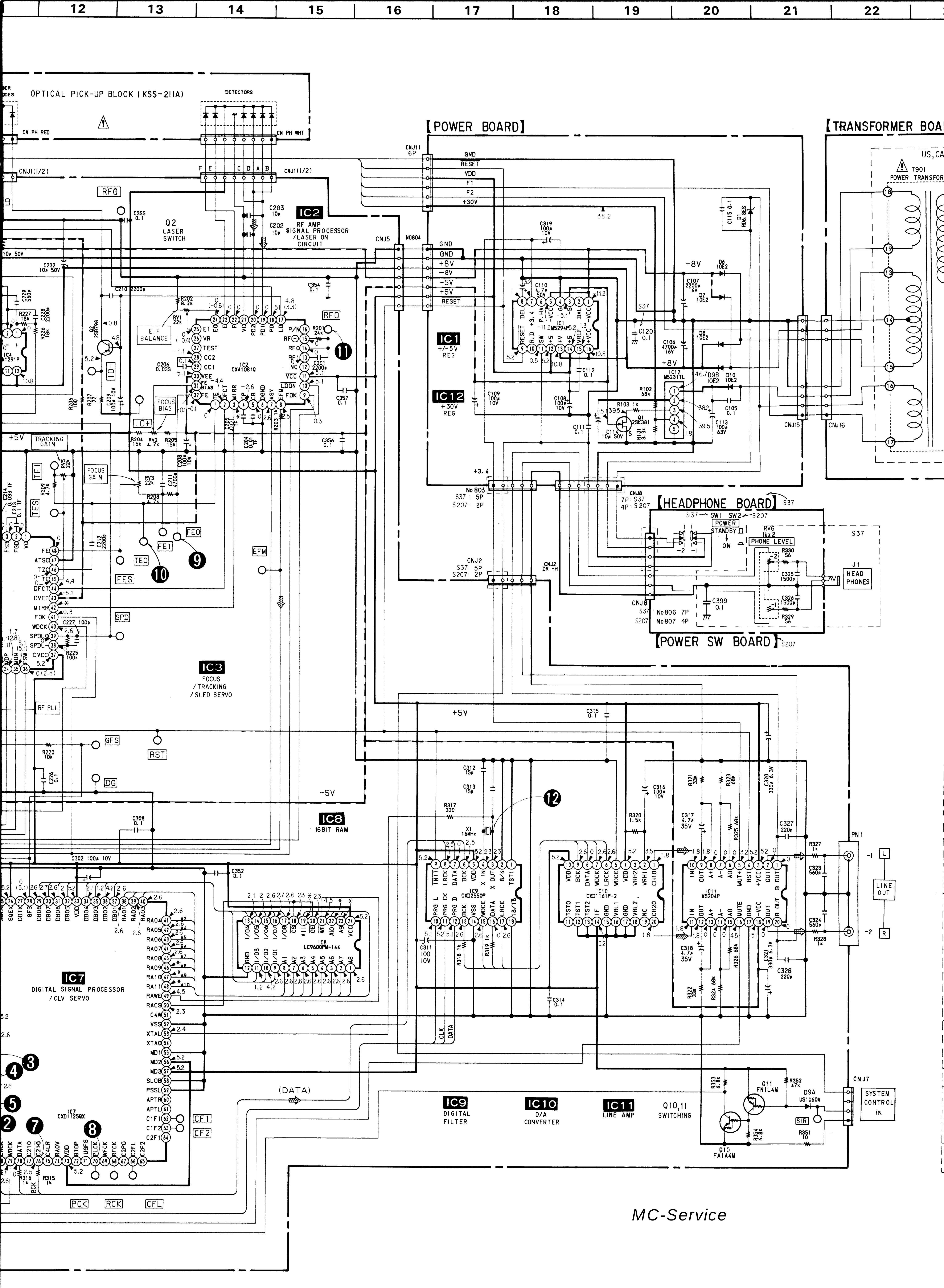
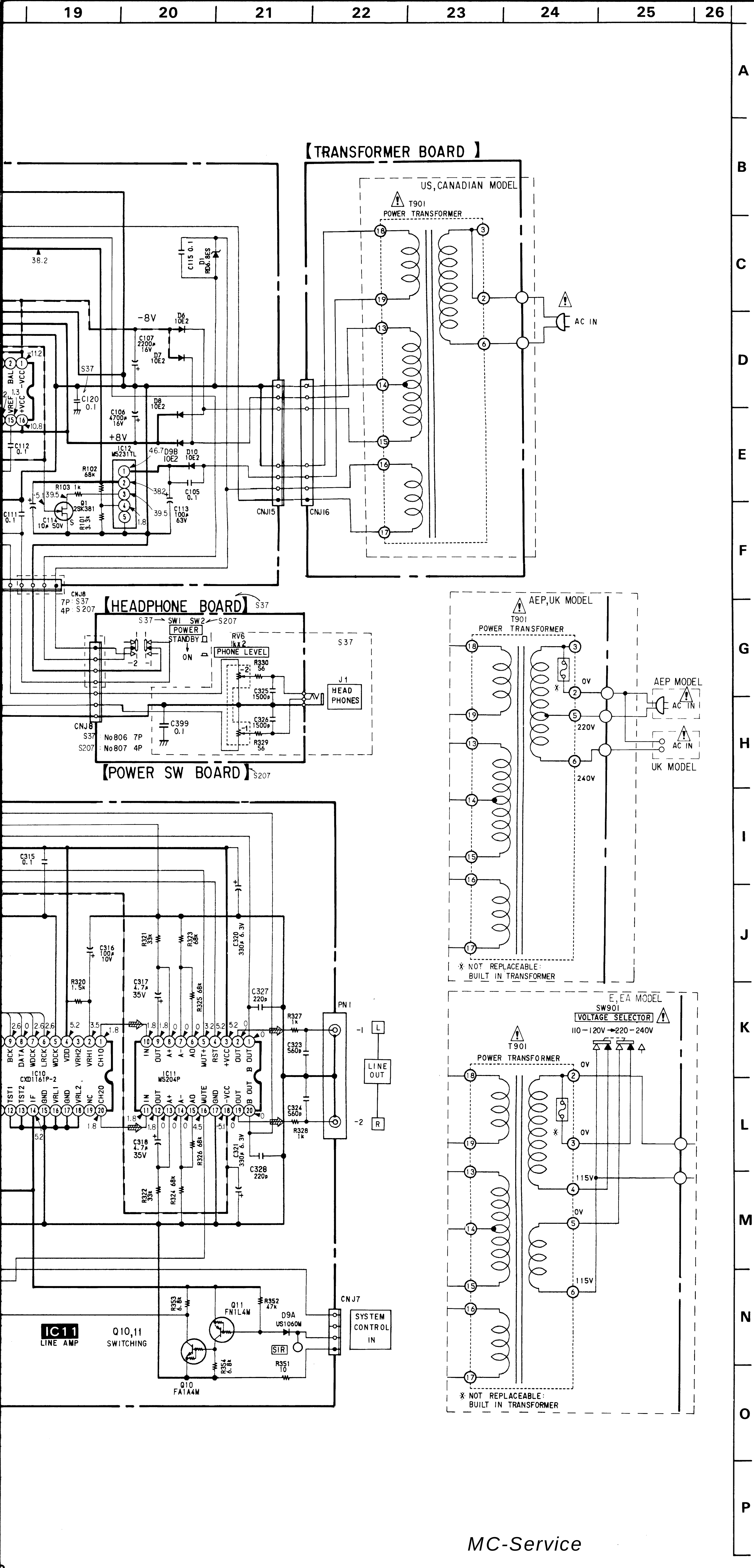
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
【LOADING BOARD】
S002 LOADING OUT
S001 LOADING IN
M103 LOADING MOTOR
【SL/SP MOTOR BOARD】
LIMIT IN SW.
S101
M102 SPINDEL MOTOR
M101 SLED MOTOR
FOCUS COIL
TRACKING COIL
LASER DIODES
OPTICAL PI
CN PH
CN PH RED
No802
CNJ101
CNJ4 DR -H
CNJ3 PH -H
CNJ1(1/2)
OUT
GND
IN
LOAD
GND
LIM
SPD
GND
SLED
FD
TD
FE
VR (REF)
PD (MON)
LD
【DISPLAY BOARD】
CNJ21
No805
GND
RESET
VDD
F1
F2
+30V
IC4
IC5
DRIVE AMP
IC5 CXA1291P
IC4 CXA1291P
OPEN:2.3
CLOSE:2.2
+5V
TRACKING GAIN
TE1
TES
IC3 CXA1082BQ
SW112 CONTINUE
SW102
SW110 SHUFFLE
SW109 PROGRAM
SW107 REPEAT
SW108 OPEN/CLOSE
SW106
SW104
SW105
SW111 DISPLAY
SW103
SW101
KEY 0
KEY 1
KEY 2
KEY 3
KEY 4
KEY 5
R301 4.7k
R331 4.7k
R332 4.7k
D3 US1060M-TP
D4 US1060M-TP
D5 US1060M-TP
Q5 +30V SWITCH
Q5 FA1L4M-TP
Q3,4 PLL SWITCH
CNJ19
CNJ9
CNJ20
X2 4MHz
RESET
TEST
VL DOWN
VL UP
TIMER
TF-SELECT
OSCO
OSC1
LOAD IN
LOAD OUT
OUT SW
LD ON
IN SW
FOK
GFS
SQ CLK
SUB Q
EMPS
A. MUTE
AF. ADJ
SCOR
SYNC IN/SIRCS
SENSE
SYNC OUT
PRG L
XLT
PRG D/DATA
PRG CK/CLK
PLLSW
VDD
IC6 MSC6458-32SS
EDIT
A-B
1
STEP REPEAT
FADE
SPACE
PGM SHUFFLE
FL301 FLUORESCENT INDICATOR TUBE
IC6 SYSTEM CONTROL
RF PLL
Q4 FA1A4MTP
SENS
PRGL
AFJ
ADJ
MUT
MDP
ASY
Q6 FA1L4MTP SWITCH
IC7 DIGITAL SIGNAL /CLV SERV
IC7 CXD1125Q
【MAIN BOARD】

MC-Service


12
13
14
15
16
17
18
19
20
21
22
OPTICAL PICK-UP BLOCK (KSS-211A)
DETECTORS
CN PH RED
CN PH WHT
CNJ1(1/2)
RFG
Q2
LASER SWITCH
IC2
RF AMP
SIGNAL PROCESSOR
/LASER ON
CIRCUIT
IC2
CXA1081Q
E.F BALANCE
FOCUS BIAS
TRACKING GAIN
FOCUS GAIN
RFO
TEO
FEI
FEO
FES
TEI
TES
EFM
SPD
RF PLL
GFS
RST
DG
IC3
FOCUS
/TRACKING
/SLED SERVO
IC8
16BIT RAM
IC8
LC9600PM-144
IC7
DIGITAL SIGNAL PROCESSOR
/CLV SERVO
IC7
CXD1125QX
CF1
CF2
PCK
RCK
CFL
(DATA)
[POWER BOARD]
CNJ11
6P
GND
RESET
VDD
F1
F2
+30V
CNJ5
N0804
+8V
-8V
-5V
+5V
IC1
+/-5V
REG
IC12
+30V
REG
IC1
M5294P
IC12
M5231TL
Q1
2SK381
CNJ15
CNJ16
[TRANSFORMER BOARD]
US,CA
T901
POWER TRANSFORMER
No 803
S37: 5P
S207: 2P
CNJ8
7P: S37
4P: S207
[HEADPHONE BOARD]
S37
SW1
SW2
S207
POWER
STANDBY
ON
RV6
PHONE LEVEL
J1
HEAD PHONES
CNJ2
DR-H
No806 7P
No807 4P
[POWER SW BOARD]
+5V
-5V
IC9
CXD2550P
X1
16MHz
IC10
CXD1161P-2
IC11
M5204P
PN1
LINE OUT
L
R
CNJ7
SYSTEM CONTROL IN
SIR
Q11
FN1L4M
Q10
FA1A4M
D9A
US1060M
IC9
DIGITAL FILTER
IC10
D/A CONVERTER
IC11
LINE AMP
Q10,11
SWITCHING
CLK
DATA

MC-Service


19
20
21
22
23
24
25
26
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
【TRANSFORMER BOARD】
US,CANADIAN MODEL
T901
POWER TRANSFORMER
AC IN
AEP,UK MODEL
AEP MODEL
UK MODEL
0V
220V
240V
E,EA MODEL
SW901
VOLTAGE SELECTOR
110-120V
220-240V
115V
※ NOT REPLACEABLE:
BUILT IN TRANSFORMER
CNJ15
CNJ16
【HEADPHONE BOARD】
【POWER SW BOARD】
POWER
STANDBY
ON
PHONE LEVEL
RV6
J1
HEAD PHONES
CNJ8
No806 7P
No807 4P
S37
S207
IC12
M5231TL
Q1
2SK381
-8V
+8V
IC10
CXD1161P-2
IC11
M5204P
PN1
LINE OUT
CNJ7
SYSTEM CONTROL IN
SIR
D9A
US1060M
Q11
FN1L4M
Q10
FA1A4M
IC11
LINE AMP
Q10,11
SWITCHING

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▬▬ : B+ Line
- ▬ ▬ ▬ : B– Line
- ☐ : adjustment for repair.
- AC voltage readings in the bias oscillator with a VTVM.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
  ( ) : PLAY
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MC-Service

3-5. CIRCUIT DESCRIPTION

IC6 (MSC6458) SYSTEM CONTROL MICROCOMPUTER

Table 1 Pin Functions IC6

Description of IC6 (MSC6458)

IC101 has the following functions:

- Digital signal output to operation key
- Sub Q signal loading and processing
- Fluorescent display (FLD) control
- Servo circuit control

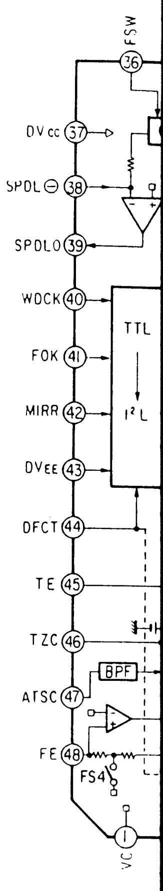
Pin Function

Pin no.	Pin name	I/O	Description
1	PLL SW	O	"L" in play mode and "H" in search mode.
2	CLK	O	Command transfer of clock to SSP (IC3) and DSP (IC7).
3	DATA	O	Command transfer of data to SSP (IC3) and DSP (IC7).
4	XLK	O	Command transfer of latch to SSP (IC3) and DSP (IC7).
5	PRGL	O	Command transfer of latch to DFIL (IC9).
6	SYNC OUT	O	No connector (NC).
7	SENSE	I	SSP (IC2) and DSP (IC3) sense information.
8	SYNC ON	I	Sync REC ("L" in REC mode).
9	SIRCS	I	Remote control signal input.
10	SCOR	I	Q code read timing.
11	AF ADJ	I	No connection (NC)
12	ADJ	I	"L" in test mode.
13	AMUTE	O	ALL muting. Output to DSP (IC3) MUTG.
14	EMPS	O	No connection (NC)
15	SUBQ	I	Subcode data.
16	SQCLK	O	Subcode data read clock.
17	GFS	I	"H" when CLV is locked.
18	FOK	I	"H" when focus is on.
19	KEY0	I	Key matrix input. "H" active.
20	KEY1	I	Key matrix input. "H" active.
21	KEY2	I	Key matrix input. "H" active.
22	KEY3	I	Key matrix input. "H" active.
23	KEY4	I	Key matrix input. "H" active.
24	KEY5	I	Key matrix input. "H" active.
25	INSW	I	Loading IN SW.
26	LDON	O	Laser on / off.
27	OUTSW	I/O	Loading OUT SW.
28	LODOUT	O	Loading motor control.
29	LODIN	O	Loading motor control.
30	OSC1	I	Oscillator input terminal (4 MHz).
31	OSC0	I	Oscillator input terminal (4 MHz).

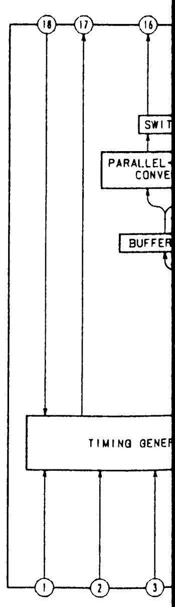
Pin No.	Pin name	I/O	Descriprion
32	GND	—	GND terminal.
33	RESET	I	Reset input terminal. Input when power is turned on.
34	TEST	—	No connection (NC).
35	VL DOWN	—	No connection (NC).
36	VL UP	O	Volume up.
37	TIMER	O	No connection (NC).
38	LED	O	Volume indicator.
39	8G	O	FLD timing output.
40	7G	O	FLD timing output.
41	6G	O	FLD timing output.
42	5G	O	FLD timing output.
43	4G	O	FLD timing output.
44	3G	O	FLD timing output.
45	2G	O	FLD timing output.
46	1G	O	FLD timing output.
47	NC	—	No connection (NC).
48	o	O	FLD seqment output.
49	n	O	FLD seqment output.
50	m	O	FLD seqment output.
51	+ 30V	—	+ 30V
52	l	O	FLD seqment output.
53	k	O	FLD seqment output.
54	j	O	FLD seqment output.
55	i	O	FLD seqment output.
56	h	O	FLD seqment output.
57	g	O	FLD seqment output.
58	f	O	FLD seqment output.
59	e	O	FLD seqment output.
60	d	O	FLD seqment output.
61	c	O	FLD seqment output.
62	b	O	FLD seqment output.
63	a	O	FLD seqment output.
64	VDD	—	positive(+) power supply (5V)

3-6. IC BLOC

• IC3 CXA-10

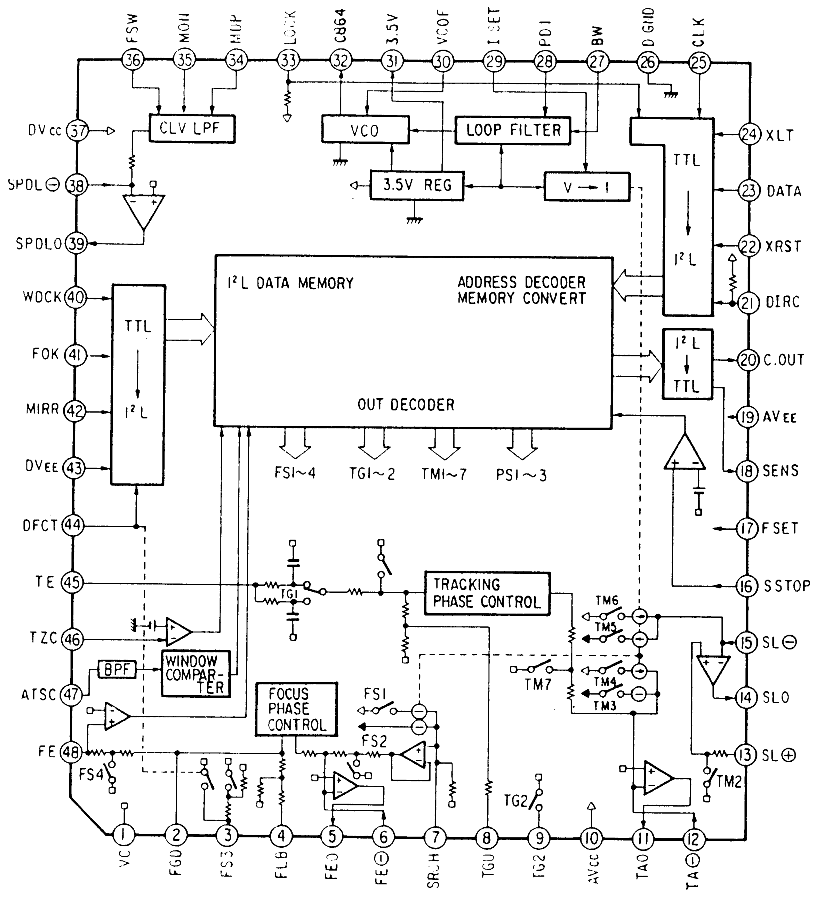


• IC9 CXD255

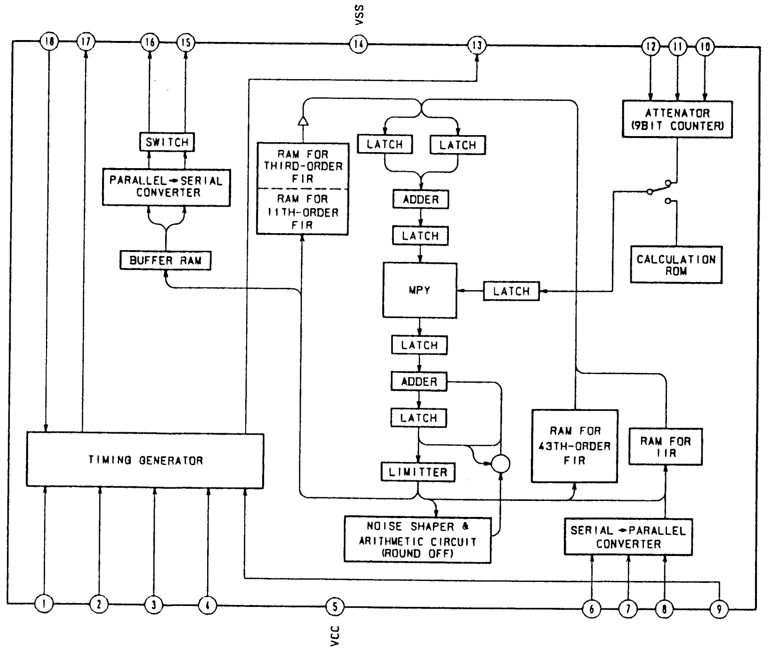


3-6. IC BLOCK DIAGRAM

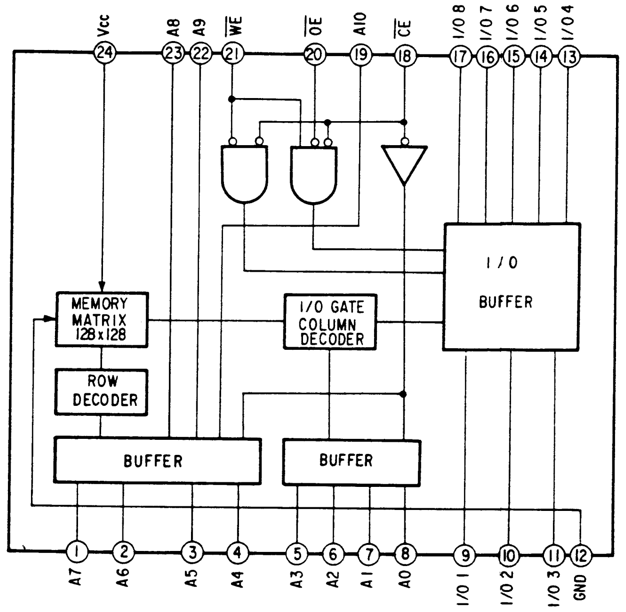
• IC3 CXA-1082BQ


FSW
MON
MDP
LOCK
C864
3.5V
VCOF
ISET
PDI
BW
D GND
CLK
CLV LPF
VCO
LOOP FILTER
3.5V REG
V → I
TTL
I²L
XLT
DATA
XRST
DIRC
C.OUT
AVEE
SENS
FSET
SSTOP
SL⊖
SLO
SL⊕
DVcc
SPDL⊖
SPDLO
WDCK
FOK
MIRR
DVEE
DFCT
TE
TZC
ATSC
FE
I²L DATA MEMORY
ADDRESS DECODER
MEMORY CONVERT
OUT DECODER
FSI~4
TGI~2
TMI~7
PSI~3
TG1
TRACKING PHASE CONTROL
TM6
TM5
TM7
TM4
TM3
TM2
FOCUS PHASE CONTROL
FS1
FS2
FS3
FS4
BPF
WINDOW COMPARATER
TG2
VC
FGD
FLB
FE⊖
FE⊕
SRCH
TGU
TG2
AVcc
TAO
TA⊖

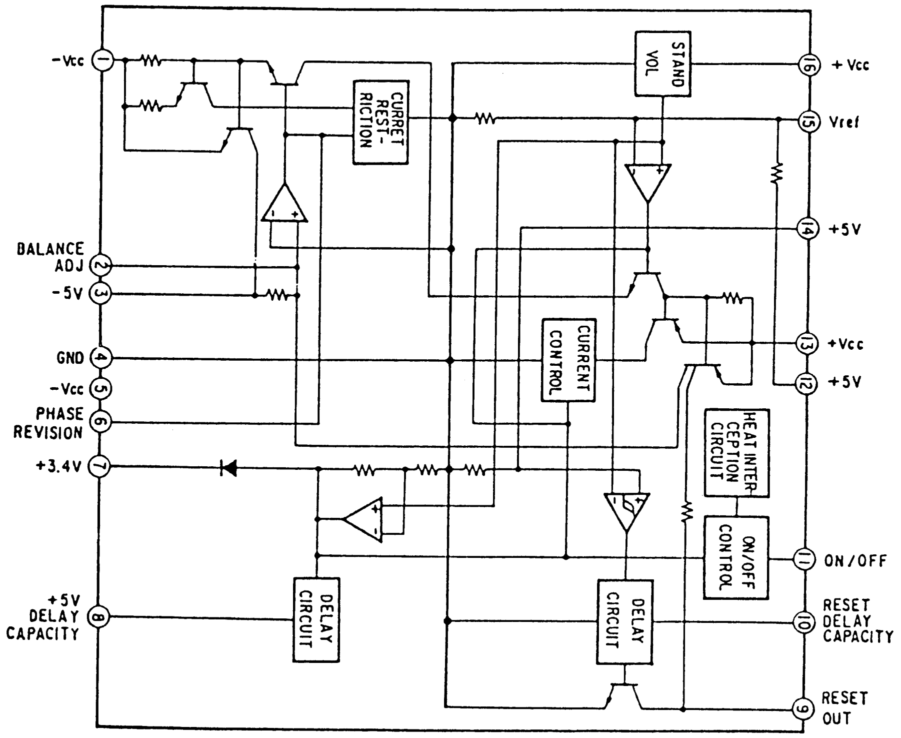
• IC9 CXD2550P


VSS
VCC
SWITCH
PARALLEL→SERIAL CONVERTER
BUFFER RAM
RAM FOR THIRD-ORDER FIR
RAM FOR 11TH-ORDER FIR
LATCH
ADDER
MPY
LIMITTER
NOISE SHAPER & ARITHMETIC CIRCUIT (ROUND OFF)
RAM FOR 43TH-ORDER FIR
RAM FOR IIR
SERIAL→PARALLEL CONVERTER
ATTENATOR (9BIT COUNTER)
CALCULATION ROM
TIMING GENERATOR

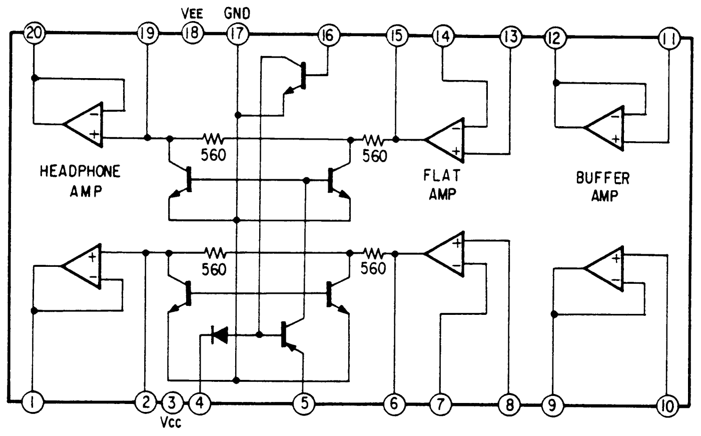
• IC8 LC9600PM-144


Vcc
A8
A9
WE
OE
A10
CE
I/O 8
I/O 7
I/O 6
I/O 5
I/O 4
MEMORY MATRIX 128×128
ROW DECODER
I/O GATE COLUMN DECODER
I/O BUFFER
BUFFER
BUFFER
A7
A6
A5
A4
A3
A2
A1
A0
I/O 1
I/O 2
I/O 3
GND

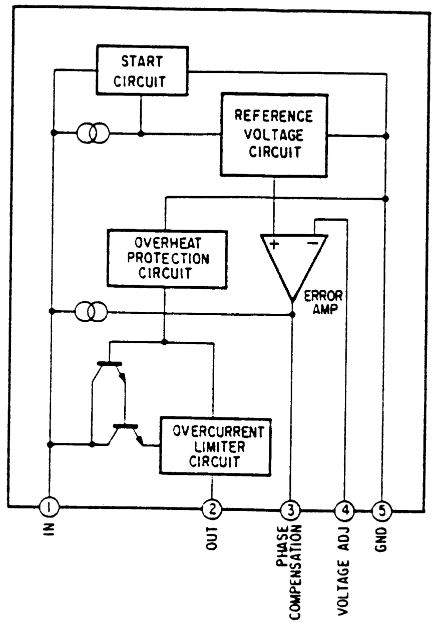
• IC1 M5294P


-Vcc
BALANCE ADJ
-5V
GND
-Vcc
PHASE REVISION
+3.4V
+5V DELAY CAPACITY
CURRET RESTRICTION
STAND VOL
CURRENT CONTROL
HEAT INTERCEPTION CIRCUIT
ON/OFF CONTROL
DELAY CIRCUIT
DELAY CIRCUIT
+Vcc
Vref
+5V
+Vcc
+5V
ON/OFF
RESET DELAY CAPACITY
RESET OUT

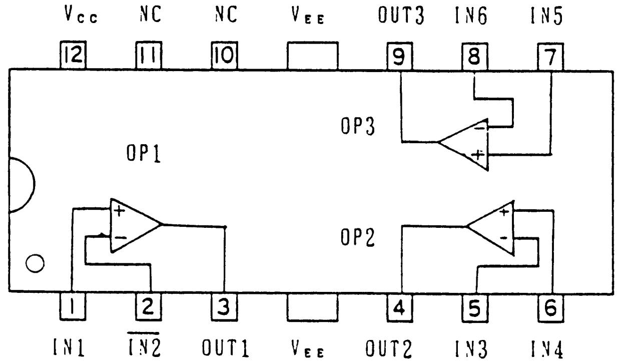
• IC11 M5204P


VEE
GND
HEADPHONE AMP
560
560
560
560
FLAT AMP
BUFFER AMP
Vcc

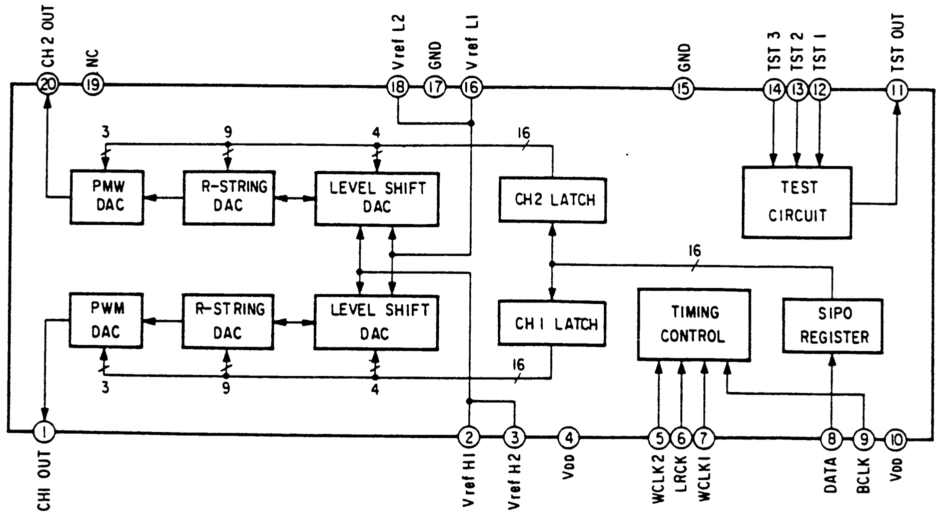
• IC12 M5231TL


START CIRCUIT
REFERENCE VOLTAGE CIRCUIT
OVERHEAT PROTECTION CIRCUIT
ERROR AMP
OVERCURRENT LIMITER CIRCUIT
IN
OUT
PHASE COMPENSATION
VOLTAGE ADJ
GND

• IC4, 5 CXA1291P


Vcc
NC
NC
VEE
OUT3
IN6
IN5
OP1
OP2
OP3
IN1
IN2
OUT1
VEE
OUT2
IN3
IN4

• IC10 CXD1161P-2


CH2 OUT
NC
Vref L2
GND
Vref L1
GND
TST 3
TST 2
TST 1
TST OUT
PWM DAC
R-STRING DAC
LEVEL SHIFT DAC
CH2 LATCH
TEST CIRCUIT
CH1 LATCH
TIMING CONTROL
SIPO REGISTER
CH1 OUT
Vref H1
Vref H2
VDD
WCLK2
LRCK
WCLK1
DATA
BCLK
VDD

MC-Service

SECTION 4
EXPLODED VIEWS

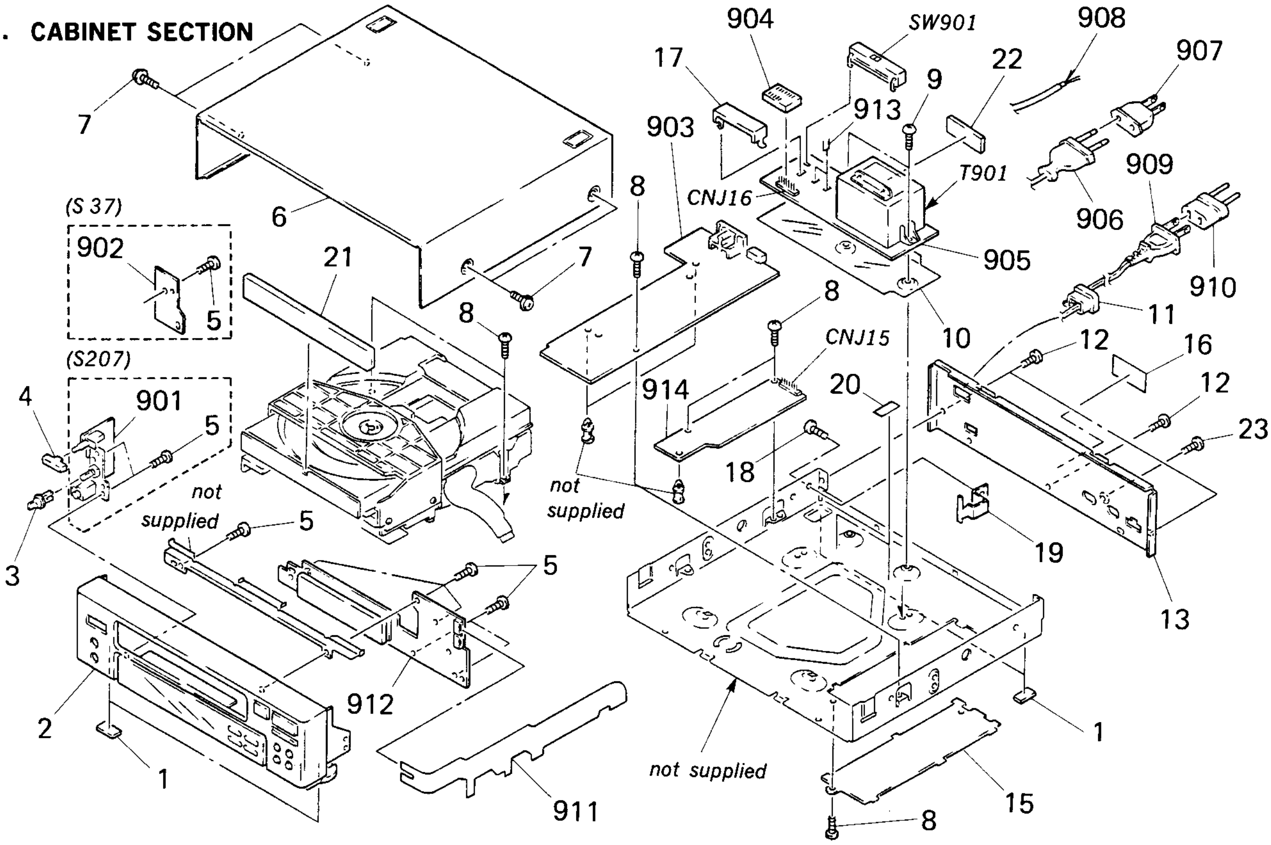
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

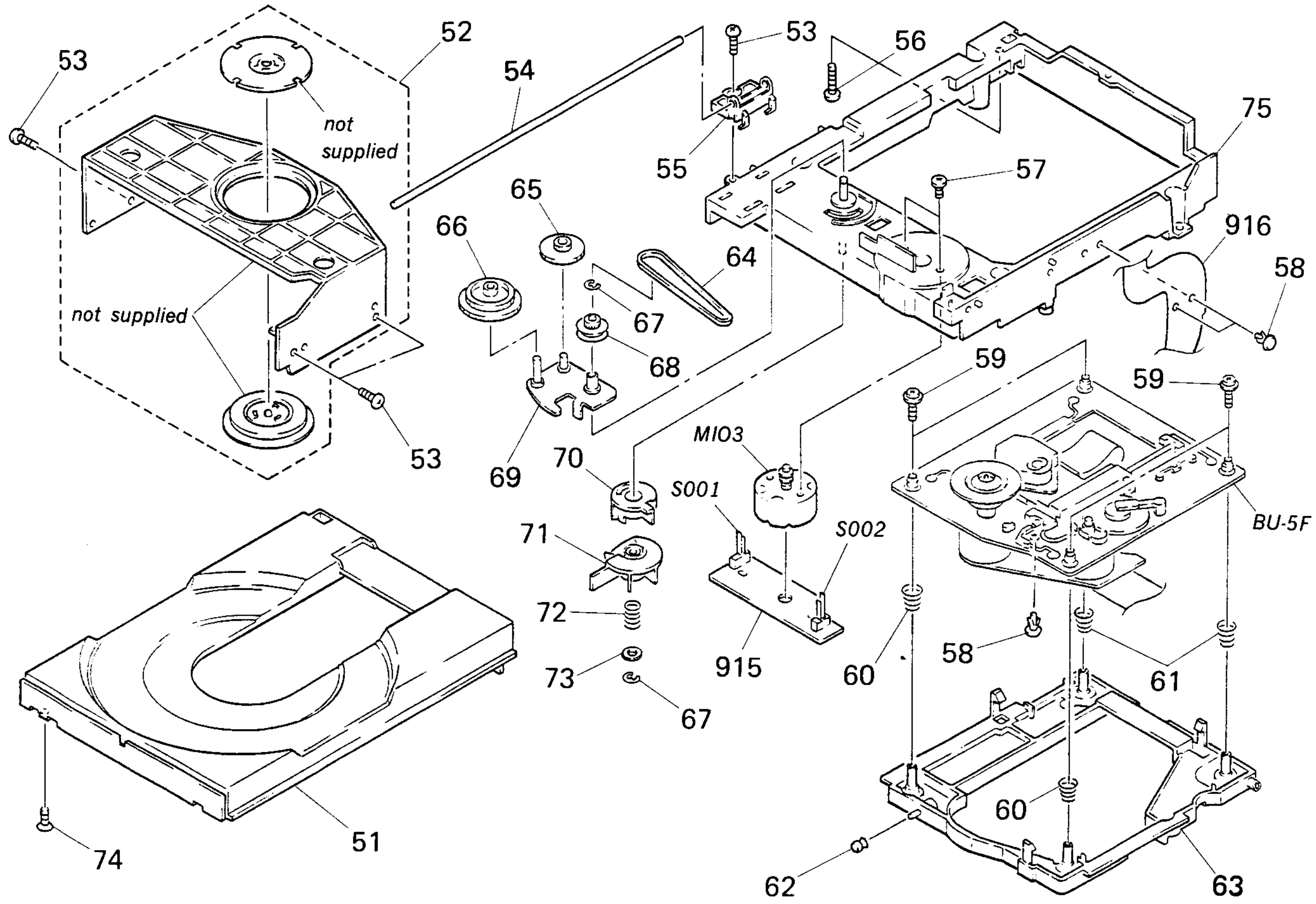
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

4-1. CABINET SECTION



Ref.No	Part No.	Description	Remarks
1	4-930-336-01	FOOT (FELT)	
2	X-4929-701-1	(S37)....PANEL ASSY, FRONT	
	X-4929-702-1	(S207)....PANEL ASSY, FRONT	
3	4-929-707-11	(S37)....KNOB (H.P)	
4	4-929-713-01	(S207)....BUTTON (POWER)	
	4-929-713-11	(S37)....BUTTON (POWER)	
5	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
6	4-930-347-01	(S207)....CASE	
	4-930-347-11	(S37)....CASE	
7	3-704-366-01	SCREW (CASE) (M3X8)	
8	7-682-547-04	SCREW +BVTT 3X6 (S)	
9	7-682-547-04	SCREW (+BVTT M3S)	
10	★4-929-711-01	COVER (A), POWER	
11	★3-703-244-00	(S37 : AEP/UK/EA,S207 : AEP/UK)....BUSHING (2104), CORD	
	★3-703-571-11	(S37 : CND/E,S207 : US,CND)....BUSHING (S)(4516), CORD	
12	7-685-872-09	SCREW +BVTT 3X8 (S)	
13	★4-929-702-01	(S207 : AEP)....PANEL, BACK	
	★4-929-702-11	(US)....PANEL, BACK	
	★4-929-702-21	(S207 : CND)....PANEL, BACK	
	★4-929-702-31	(S207 : UK)....PANEL, BACK	
	★4-929-702-41	(E/EA)....PANEL, BACK	
	★4-929-702-51	(S37 : CND)....PANEL, BACK	
	★4-929-702-61	(S37 : AEP)....PANEL, BACK	
	★4-929-702-71	(S37 : UK)....PANEL, BACK	
15	★4-929-708-01	PLATE, BOTTOM	
16	★4-885-838-00	LABEL, CLASS 1	
17	★4-929-710-01	COVER (B), POWER	
18	7-621-775-10	SCREW +B 2.6X4	
19	★4-929-712-01	(S37 : AEP/UK/E/EA,S207 : AEP/UK)....COVER (C), POWER	
20	3-831-441-XX	CUSHION (B), CABINET	
21	4-929-715-01	PANEL, LOADING	
22	★4-929-735-01	(S37 : CND/AEP/E/EA S207 : US/CND/AEP) ....CUSHION	
23	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
901	★1-630-621-11	(S37)....PC BOARD, HEADPHONE	
902	★1-630-617-11	(S207)....PC BOARD, POWER SW	
903	★A-4617-080-A	(S37)....MOUNTED PCB, MAIN	
	★A-4617-088-A	(S207)....MOUNTED PCB, MAIN	
904	1-568-479-11	SOCKET, CONNECTOR (PC BOARD)7P	
905	★1-630-618-11	PC BOARD, TRANSFORMER	
906	⚠1-555-750-00	(S37 : AEP/EA, S207 : AEP)....CORD, POWER	
907	⚠1-506-401-00	(EA)....ADAPTOR, CONVERSION	
908	⚠1-556-035-00	(S37 : UK, S207 : UK)....CORD, POWER	
909	⚠1-551-188-XX	(E)....CORD, POWER	
	⚠1-558-941-11	(S37 : CND, S207 : US/CND)....CORD, POWER	
910	⚠1-526-565-00	(E)....AC PLUG ADAPTOR	
911	1-535-778-11	JUMPER, FILM (WITH TERMINAL)	
912	★1-630-616-11	PC BOARD, DISPLAY	
913	★1-535-771-11	TERMINAL	
914	★1-630-619-11	PC BOARD, POWER	
CNJ15	★1-568-480-11	PIN, CONNECTOR (PC BOARD) 7P	
CNJ16	★1-568-480-11	PIN, CONNECTOR (PC BOARD) 7P	
SW901	⚠1-571-772-11	(E/EA)....SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR)	
T901	⚠1-449-663-11	(E/EA)....TRANSFORMER, POWER	
	⚠1-449-664-11	(S37 : CND,S207 : US/CND)....TRANSFORMER, POWER	
	⚠1-449-665-11	(S37 : AEP/UK,S207 : AEP/UK)....TRANSFORMER, POWER	

4-2. CDM13 SECTION


52
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not supplied
not supplied
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916
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69
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M103
S001
S002
BU-5F
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915
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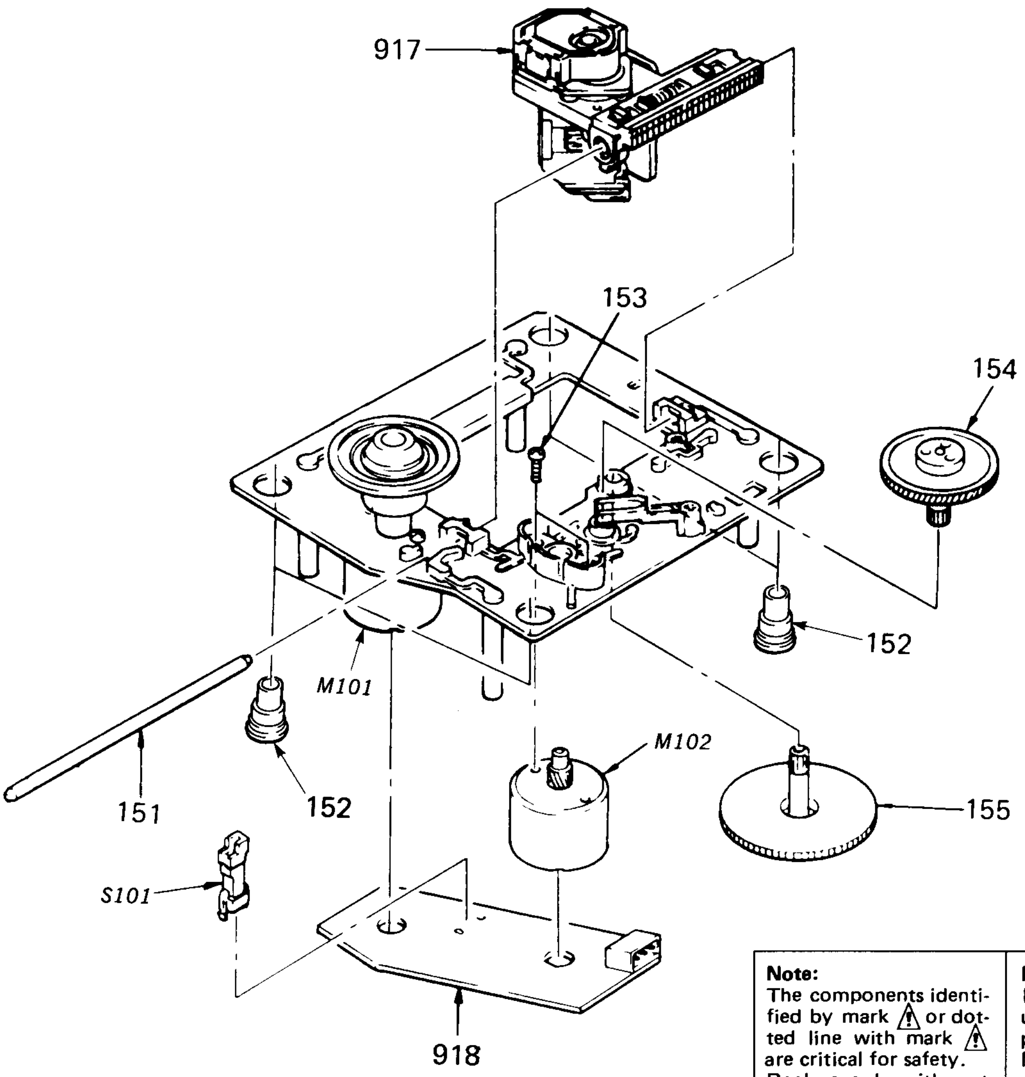
51

Ref.No	Part No.	Description	Remarks
51	4-929-732-01	TABLE, DISK	
52	A-4604-219-A	HOLDER (MG) ASSY	
53	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
54	4-929-721-01	SHAFT	
55	4-929-723-01	GUIDE (T)	
56	4-928-635-11	SCREW, +BV (2.6X16) TAPPING	
57	7-621-775-10	SCREW +B 2.6X4	
58	3-531-576-01	RIVET	
59	7-685-134-19	SCREW (+ PTPWH) (2.6X8)	
60	4-917-572-01	SPRING (B)	
61	4-917-541-01	SPRING (B)	
62	4-927-631-01	ROLLER (L)	
63	*4-929-730-01	HOLDER (BU-5)	
64	4-927-649-01	BELT	
65	4-927-628-01	GEAR (C)	
66	4-927-620-01	GEAR (P)	
67	7-624-105-04	STOP RING 2.3, TYPE -E	
68	4-929-724-01	PULLEY (B)	
69	X-4929-703-1	ARM ASSY, SWING	
70	4-929-727-01	CAM (A)	
71	4-929-729-01	CAM (B)	
72	3-659-338-00	SPRING, COMPRESSION	
73	4-927-654-01	WASHER (LIMITER)	
74	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT	
75	X-4929-704-1	CHASSIS (MD) ASSY	
915	*1-630-621-11	PC BOARD, LOADING	
916	1-535-777-11	JUMPER, FILM (WITH TERMINAL)	
M103	A-4608-362-A	MOTOR (L) ASSY (LOADING)	
S001	1-571-924-11	SWITCH, LEAF (LOADING IN SW)	
S002	1-571-924-11	SWITCH, LEAF (LOADING OUT SW)	

MC-Service

4-3. BU-5F SECTION



Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No	Part No.	Description	Remarks
151	4-917-565-01	SHAFT, SLED	
152	4-917-562-01	INSULATOR	
153	7-621-255-15	SCREW +P 2X3	
154	4-917-567-01	GEAR (M)	
155	4-917-564-01	GEAR (P), FLATNESS	
917	⚠8-848-062-01	DEVICE, OPTICAL KSS-211A	
918	*1-630-622-11	PC BOARD, SL/SP MOTOR	
M101	X-4917-523-1	MOTOR, ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR, ASSY (SLED)	
S101	1-571-274-11	SWITCH, LEAF (LIMIT IN SW)	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No	Part No.	Description
901	*1-630-621-11	(S37)....PC BOARD, HEADPHONE
902	*1-630-617-11	(S207)....PC BOARD, POWER SW
903	*A-4617-080-A	(S37)....MOUNTED PCB, MAIN
	*A-4617-088-A	(S207)....MOUNTED PCB, MAIN
904	1-568-479-11	SOCKET, CONNECTOR (PC BOARD)7P
905	*1-630-618-11	PC BOARD, TRANSFORMER
906	⚠.1-555-750-00	(S37 : AEP/EA, S207 : AEP)....CORD, POWER
907	⚠.1-506-401-00	(EA)....ADAPTOR, CONVERSION
908	⚠.1-556-035-00	(S37 : UK, S207 : UK)....CORD, POWER
909	⚠.1-551-188-XX	(E)....CORD, POWER
	⚠.1-558-941-11	(S37 : CND, S207 : US/CND)....CORD, POWER
910	⚠.1-526-565-00	(E)....AC PLUG ADAPTOR
911	1-535-778-11	JUMPER, FILM (WITH TERMINAL)
912	*1-630-616-11	PC BOARD, DISPLAY
913	*1-535-771-11	TERMINAL
914	*1-630-619-11	PC BOARD, POWER
915	*1-630-621-11	PC BOARD, LOADING
916	1-535-777-11	JUMPER, FILM (WITH TERMINAL)
917	⚠.8-848-062-01	DEVICE, OPTICAL KSS-211A
918	*1-630-622-11	PC BOARD, SL/SP MOTOR

CAPACITOR

Ref.No	Part No.	Description			
C105	1-164-159-11	CERAMIC	0.1MF		50V
C106	1-124-898-11	ELECT	4700MF	20%	16V
C107	1-124-556-11	ELECT	2200MF	20%	16V
C108	1-124-443-00	ELECT	100MF	20%	10V
C109	1-124-443-00	ELECT	100MF	20%	10V
C110	1-124-927-11	ELECT	4.7MF	20%	50V
C111	1-162-179-11	CERAMIC	0.1MF		50V
C112	1-162-179-11	CERAMIC	0.1MF		50V
C113	1-124-572-11	ELECT	100MF	20%	63V
C114	1-123-875-11	ELECT	10MF	20%	50V
C115	1-164-159-11	CERAMIC	0.1MF		50V
C120	1-136-153-00	(S37)....FILM	0.01MF	5%	50V
C201	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C202	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C203	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C204	1-136-153-00	FILM	0.01MF	5%	50V
C205	1-136-153-00	FILM	0.01MF	5%	50V
C206	1-136-159-00	FILM	0.033MF	5%	50V
C208	1-124-443-00	ELECT	100MF	20%	10V
C209	1-124-443-00	ELECT	100MF	20%	10V
C210	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C211	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C212	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C213	1-136-165-00	FILM	0.1MF	5%	50V
C214	1-136-159-00	FILM	0.033MF	5%	50V
C215	1-123-382-00	ELECT	3.3MF	20%	50V
C216	1-136-165-00	FILM	0.1MF	5%	50V
C217	1-123-875-11	ELECT	10MF	20%	50V
C218	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C219	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C220	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C221	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C222	1-124-438-00	ELECT	1MF	20%	50V
C223	1-126-094-11	ELECT	4.7MF	20%	35V
C224	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C225	1-124-443-00	ELECT	100MF	20%	10V
C226	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C227	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C228	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C229	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C230	1-136-169-00	FILM	0.22MF	5%	50V
C231	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C232	1-123-875-11	ELECT	10MF	20%	50V
C233	1-123-875-11	ELECT	10MF	20%	50V
C234	1-124-611-00	ELECT	1MF	20%	100V
C236	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C301	1-136-165-00	FILM	0.1MF	5%	50V
C302	1-124-443-00	ELECT	100MF	20%	10V
C303	1-136-159-00	FILM	0.033MF	5%	50V
C304	1-124-902-00	ELECT	0.47MF	20%	50V
C305	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C306	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C307	1-163-145-00	CERAMIC CHIP	0.0015MF	5%	50V
C308	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C311	1-124-443-00	ELECT	100MF	20%	10V
C312	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C313	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C314	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C315	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C316	1-124-443-00	ELECT	100MF	20%	10V
C317	1-126-094-11	ELECT	4.7MF	20%	35V
C318	1-126-094-11	ELECT	4.7MF	20%	35V
C319	1-124-443-00	ELECT	100MF	20%	10V
C320	1-124-442-00	ELECT	330MF	20%	6.3V
C321	1-124-442-00	ELECT	330MF	20%	6.3V
C323	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C324	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C325	1-161-374-11	(S37)....CERAMIC	0.0015MF	20%	16V
C326	1-161-374-11	(S37)....CERAMIC	0.0015MF	20%	16V
C327	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C328	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C329	1-124-438-00	ELECT	1MF	20%	50V
C330	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C331	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C332	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C333	1-124-584-00	ELECT	100MF	20%	10V
C352	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C353	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C354	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C355	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C356	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C357	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C399	1-136-165-00	(S37)....FILM	0.1MF	5%	50V
CNJ2	*1-564-336-00	(S207)....PIN, CONNECTOR 2P			
	*1-564-339-11	(S37)....PIN, CONNECTOR 5P			
CNJ3	*1-564-338-00	PIN, CONNECTOR 4P			
CNJ4	*1-564-339-00	PIN, CONNECTOR 5P			
CNJ5	*1-564-341-11	PIN, CONNECTOR 7P			

Ref.No	Part No.	Description			
CNJ7	1-564-980-11	PIN, CONNECTOR 4P (SYSTEM CONTROL IN)			
CNJ8	*1-564-338-00	(S207)....PIN, CONNECTOR 4P			
	*1-564-341-11	(S37)....PIN, CONNECTOR 7P			
CNJ9	*1-568-506-11	SOCKET, CONNECTOR 21P			
CNJ11	*1-564-340-00	PIN, CONNECTOR 6P			
CNJ15	*1-568-480-11	PIN, CONNECTOR (PC BOARD) 7P			
CNJ16	*1-568-480-11	PIN, CONNECTOR (PC BOARD) 7P			
CNJ19	*1-568-505-11	HOUSING, CONNECTOR 10P			
CNJ20	*1-568-505-11	HOUSING, CONNECTOR 10P			
D1	8-719-109-96	DIODE RD6.8ES-B1			
D3	8-719-100-03	DIODE 1S2835			
D4	8-719-100-03	DIODE 1S2835			
D5	8-719-100-03	DIODE 1S2835			
D6	8-719-200-02	DIODE 10E2			
D7	8-719-200-02	DIODE 10E2			
D8	8-719-200-02	DIODE 10E2			
D9A	8-719-100-03	DIODE 1S2835			
D9B	8-719-200-02	DIODE 10E2			
D10	8-719-200-02	DIODE 10E2			
FL301	1-519-499-11	INDICATOR TUBE, FLUORESCENT			
HS1	*4-922-525-01	HEAT SINK			
IB101	1-233-171-11	COMPOSITION CIRCUIT BLOCK			
IB102	1-233-171-11	COMPOSITION CIRCUIT BLOCK			
IC1	8-759-631-40	IC M5294P			
IC2	8-752-033-14	IC CXA1081Q			
IC3	8-752-032-29	IC CXA1082BQ			
IC4	8-752-035-28	IC CXA1291P			
IC5	8-752-035-28	IC CXA1291P			
IC6	8-759-978-34	IC MSC6458-32SS			
IC7	8-752-328-62	IC CXD1125Q			
IC8	8-752-323-64	IC CXK5816M-12L			
IC9	8-752-328-72	IC CXD2550P			
IC10	8-759-805-36	IC CXD1161P-3			
IC11	8-759-631-39	IC M5204P			
IC12	8-759-605-43	IC M5231TL			
J1	1-507-967-51	(S37)....JACK (HEADPHONES)			
JW25	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW26	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW27	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW28	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW29	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW30	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW31	1-216-295-00	METAL GLAZE	0	5%	1/10W
M101	X-4917-523-1	MOTOR, ASSY (SPINDLE)			
M102	X-4917-504-1	MOTOR, ASSY (SLED)			
M103	A-4608-362-A	MOTOR (L) ASSY (LOADING)			
PN1	1-566-921-11	JACK, PIN 2P (LINE OUT)			
Q1	8-729-600-94	TRANSISTOR 2SK381-C			
Q2	8-729-101-07	TRANSISTOR 2SB798-DL			
Q3	8-729-113-13	TRANSISTOR FA1A4M-L33			
Q4	8-729-112-97	TRANSISTOR FA1L4M-L31			
Q5	8-729-112-97	TRANSISTOR FA1L4M-L31			
Q6	8-729-112-97	TRANSISTOR FA1L4M-L31			
Q10	8-729-113-13	TRANSISTOR FA1A4M-L33			
Q11	8-729-113-66	TRANSISTOR FN1L4M-M31			

RESISTOR

R101	1-249-423-11	CARBON	3.3K	5%	1/4W
R102	1-249-439-11	CARBON	68K	5%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R201	1-216-082-00	METAL GLAZE	24K	5%	1/10W

Ref.No	Part No.	Description			
R202	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R203	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R204	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R205	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R206	1-216-025-00	METAL GLAZE	100	5%	1/10W
R207	1-216-009-00	METAL GLAZE	22	5%	1/10W
R208	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R209	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R211	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R212	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R213	1-216-107-00	METAL GLAZE	270K	5%	1/10W
R214	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R215	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R216	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R217	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R218	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R219	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R220	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R221	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R222	1-216-043-00	METAL GLAZE	560	5%	1/10W
R223	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R224	1-218-154-11	METAL GLAZE	3.6K	1%	1/10W
R225	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R226	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R227	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R228	1-216-001-00	METAL GLAZE	10	5%	1/10W
R229	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R230	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R231	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R232	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R234	1-216-097-00	METAL GLAZE	100K	1%	1/10W
R235	1-218-163-11	METAL GLAZE	120K	1%	1/10W
R236	1-218-163-11	METAL GLAZE	120K	1%	1/10W
R237	1-216-097-00	METAL GLAZE	100K	1%	1/10W
R238	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R239	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R240	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R241	1-216-001-00	METAL GLAZE	10	5%	1/10W
R242	1-216-001-00	METAL GLAZE	10	5%	1/10W
R301	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R302	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R303	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R304	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R305	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R306	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R307	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R308	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R309	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R310	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R311	1-216-097-00	METAL GLAZE	100K	1%	1/10W
R312	1-216-097-00	METAL GLAZE	100K	1%	1/10W
R314	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R315	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R316	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R317	1-216-037-00	METAL GLAZE	330	5%	1/10W
R318	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R319	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R320	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R321	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R322	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R323	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R324	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R325	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R326	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R327	1-216-049-00	METAL GLAZE	1K	5%	1/10W

Ref.No	Part No.	Description
R328	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R329	1-249-402-11	(S37)....CARBON 56 5% 1/4W
R330	1-249-402-11	(S37)....CARBON 56 5% 1/4W
R331	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R332	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R333	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R351	1-216-001-00	METAL GLAZE 10 5% 1/10W
R352	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R353	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R354	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
RV1	1-228-995-00	RES, ADJ, CARBON 22K
RV2	1-228-993-00	RES, ADJ, CARBON 4.7K
RV3	1-228-995-00	RES, ADJ, CARBON 22K
RV4	1-228-990-00	RES, ADJ, METAL GLAZE 1K
RV5	1-228-995-00	RES, ADJ, CARBON 22K
RV6	1-238-302-11	(S37)....RES, VAR, CARBON 1K/1K (PHONE LEVEL)
S001	1-571-924-11	SWITCH, LEAF (LOADING IN SW)
S002	1-571-924-11	SWITCH, LEAF (LOADING OUT SW)
S101	1-571-274-11	SWITCH, LEAF (LIMIT IN SW)
SW1	1-552-928-21	(S37)....SWITCH, PUSH (1 KEY) (POWER)
SW2	1-571-305-11	(S207).... SWITCH, PUSH (1 KEY) (POWER)
SW101	1-554-596-22	SWITCH, KEY BOARD (▷)
SW102	1-554-303-21	SWITCH, KEY BOARD (■)
SW103	1-554-596-22	SWITCH, KEY BOARD (⏮)
SW104	1-554-303-21	SWITCH, KEY BOARD (⏭)
SW105	1-554-596-22	SWITCH, KEY BOARD (◀◀)
SW106	1-554-303-21	SWITCH, KEY BOARD (▶▶)
SW107	1-554-596-22	SWITCH, KEY BOARD (REPEAT)
SW108	1-554-596-22	SWITCH, KEY BOARD (OPEN/CLOSE)
SW109	1-554-596-22	SWITCH, KEY BOARD (PROGRAM)
SW110	1-554-596-22	SWITCH, KEY BOARD (SHUFFLE)
SW111	1-554-596-22	SWITCH, KEY BOARD (DISPLAY)
SW112	1-554-303-21	SWITCH, KEY BOARD (CONTINUE)
SW901	⚠.1-571-772-11	(E/EA)....SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR)
T901	⚠.1-449-663-11	(E/EA)....TRANSFORMER, POWER
	⚠.1-449-664-11	(S37 : CND,S207 : US/CND)....TRANSFORMER, POWER
	⚠.1-449-665-11	(S37 : AEP/UK,S207 : AEP/UK)....TRANSFORMER, POWER
X1	1-567-908-21	VIBRATOR, CRYSTAL (16MHz)
X2	1-577-082-11	VIBRATOR, CERAMIC (4MHz)

Part No.	Description
	ACCESSORY & PACKING MATERIAL ***********************
1-558-233-11	CORD (WITH CONNECTOR) (SIRCS)4P
1-559-533-11	CORD, CONNECTION
3-750-220-11	(S37 : CND/AEP/E/EA, S207 : CND/AEP) ....MANUAL, INSTRUCTION
3-750-220-41	(S37 : AEP, S207 : AEP/UK) ....MANUAL, INSTRUCTION
*3-795-629-11	(S37 : AEP, S207 : AEP/UK)....INSTRUCTION
4-920-941-01	SHEET (B), PROTECTION
*4-929-703-01	CUSHION (LEFT)
*4-929-704-01	CUSHION (RIGHT)
*4-929-705-01	(S207)....INDIVIDUAL CARTON
*4-929-705-11	(S37)....INDIVIDUAL CARTON
*3-750-220-21	(S37 : UK, S207 : US/UK)....MANUAL, INSTRUCTION

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Audio Group

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